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THE
CHEMIST & DRUGGIST

Head Office: 28 ESSEX STREET, STRAND, LONDON, W.C.2

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JUNE 30, 1934

VOL. CXX



Pharmacy Inspection in 1688



ALLEN and HANBURY'S LTD

*Manufacturers of High Class Pharmaceutical Products
since 1715*

37 LOMBARD STREET, LONDON, E.C.3

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with elastic straps,
adhesive and medicated

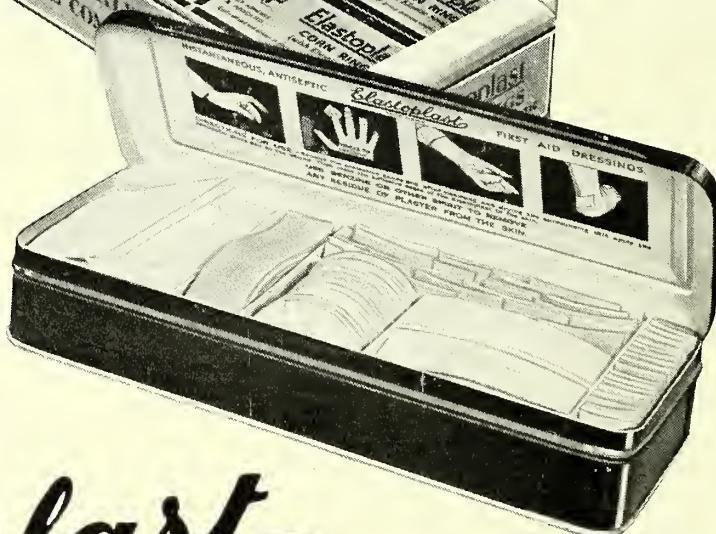
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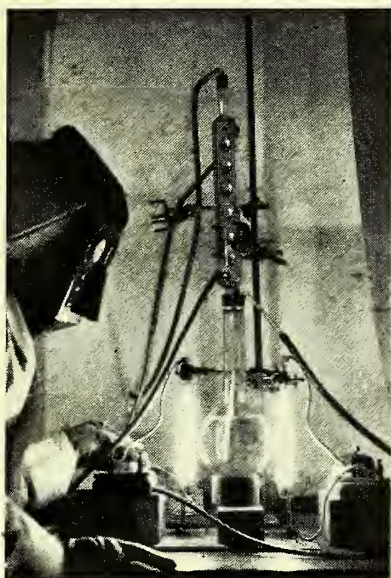
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PRODUCTS OF THE GLAXO LABORATORIES



FOODS	Retail each	Trade Price per doz. net
BUTTERMILK POWDER G.L. —1 lb. tins	3/-	28/10
COLACT —1 lb. tins	2/-	
cases of 4 doz.		19/2½
" 2 doz.		20/-
Smaller lots than 2 doz.		21/-
FAREX CEREAL FOOD —1 lb. tins	1/9	16/10
FERROLAC —1 lb. tins	3/6	33/7
FULL-CREAM GLAXO —16 oz. tins	3/6	33/7
GLAXO (Half Cream) —12 oz. tins	2/6	24/-
GLAXO MALTED FOOD —10 oz. tins.	1/3	12/-
20 oz. tins	2/4	22/5
GLAXOVO —7 oz. tins	1/6	14/5
16 oz. tins	3/3	31/2
35 oz. tins	6/-	57/7
7 lb. tins	16/6	148/6
MALTO-DEXTRIN —1 lb. tins	3/-	27/-
OSTERMILK No. 1 and No. 2 —1 lb. tagger-top tins	2/-	
Cases of 4 doz.		19/2½
" 2 doz.		20/-
Smaller lots than 2 doz.		21/-
SUNSHINE GLAXO —6 oz. tins	1/6	14/5
18 oz. tins	3/6	33/7
PHARMACEUTICAL PREPARATIONS		
ADEXOLIN CAPSULES —Boxes of 25	2/9	24/9
Boxes of 100	8/6	76/6
Tins of 500	30/6	274/6
ADEXOLIN LIQUID —½ oz. phials, with dropper	2/6	22/6
2 oz. bottles, with dropper	7/6	67/6
4 oz. bottles	12/6	112/6
8 oz. bottles	22/6	202/6
G.I. AMPOULES —Ask for separate list.		

PHARMACEUTICAL PREPARATIONS—cont.	Retail each	Trade Price per doz. net
ANTIVIRIN PREPARATIONS.		
Nasal JELLY		
Collapsible tubes	1/6	13/6
Staphylococcus and Streptococcus Mixed Antivirus JELLY :		
B. Acnes, Staphylococcus and Streptococcus Mixed Antivirus JELLY :		
Collapsible tubes	2/6	22/6
Staphylococcus Antivirus LIQUID :		
Streptococcus Antivirus LIQUID :		
Staphylococcus and Streptococcus Mixed Antivirus LIQUID :		
30 c.c. bottles (rubber capped)	4/-	36/-
CALCIUM SODIUM LACTATE WITH OSTELIN		
TABLETS —Bottles of 50	2/9	24/9
Bottles of 250	10/6	94/6
COD-LIVER OIL EMULSION with Iodine and Calcium Glycerophosphate —9½ oz. bottles		
	3/6	31/6
COLLOIDAL CALCIUM WITH OSTELIN		
Boxes of six 1 c.c. ampoules	5/-	45/-
30 c.c. bottles (rubber capped)	10/-	90/-
ERBOLIN CAPSULES —Bottles of 25		
Bottles of 100	3/4	30/-
" 500	10/-	90/-
" 1,000	45/-	405/-
" 80/-	80/-	720/-
FERROUS SULPHATE TABLETS G.L. —Bottles of 100		
	2/6	22/6
GLUCOSE-D —1 lb. tins		
	1/9	15/9
7 lb. tins	10/6	94/6
IRON-ARSENIC-STRYCHNINE COMPOUND G.L.		
Boxes of 6 × 1 c.c. ampoules	2/3	20/3
Boxes of 12 × 1 c.c. ampoules	4/-	36/-
MALTINE PREPARATIONS :		
MALTINE (PLAIN) ; MALTINE WITH CASCARA SAGRADA ; MALTINE WITH COD-LIVER OIL ; MALTINE WITH CREOSOTE ; MALTINE WITH PEPsin AND PANCREATIN. 9 fluid oz. bottles	2/9	24/9
18 fluid oz. bottles	5/-	45/-
MALTO-YERBINE —6 fluid oz. bottles		
80 fluid oz. bottles	3/-	27/-
(Bottle 1/- extra and returnable.)	30/-	270/-
MALTOLINE —1 lb. tins		
	1/6	15/-
Syrup MINADEX —6 oz. bottles		
	2/6	22/6
80 oz. Winchester	22/6	202/6
OSNOL NASAL SPRAY —1 oz. bottles		
	3/-	27/-
OSTELIN EMULSION —8 oz. bottles		
	2/6	22/6
OSTELIN LIQUID —½ oz. phials		
2 oz. bottles	7/6	67/6
4 oz. bottles	12/6	112/6
8 oz. bottles	22/6	202/6
OSTELIN TABLETS —Bottles of 45		
	2/6	22/6
Bottles of 250	12/6	112/6
OSTELIN WITH PARATHYROID TABLETS		
Bottles of 100	8/9	78/9
" 500	40/-	360/-
" 1,000	80/-	720/-
OSTOMALT —½ lb. jars		
1 lb. jars	1/9	15/9
7 lb. jars	3/-	27/-
	17/-	153/-
G.L. PREPARATION-A CAPSULES —Boxes of 25		
	3/9	33/9
Boxes of 100	12/6	112/6
G.L. PREPARATION-A LIQUID —8 c.c. phials		
	3/6	31/6
SOLUBLE PROTEIN G.L. (Protosol) —4 oz. tins		
32 oz. tins	2/6	22/6
TOROST TABLETS —Bottles of 45		
	2/6	22/6
Bottles of 250	12/6	112/6
VIOZIN OINTMENT —2 oz. tins		
	2/6	22/6
VITAMIN TESTED COD-LIVER OIL (Glaxo Brand)		
9½ oz. bottles	2/9	24/9
WHEAT GERM OIL EXTRACT CAPSULES G.L.		
Boxes of 25	6/-	54/-
" 100	21/-	189/-
" 500	80/-	720/-
SUNDRIES		
GLAXO BABY CREAM —Collapsible tubes	1/6	13/6
GLAXO BABY POWDER —Sprinkler tins	1/-	9/-
GLAXO BABY SOAP —Boxes of 3 tablets	1/6	13/6
GLAXO FEEDERS —All sizes (2 oz., 4 oz., or 8 oz.)	1/6	13/6
Spare bottles (4 oz. and 8 oz. sizes only)	1/-	9/-
GLAXO FEEDER MOPS	4d.	3/-
GLAXO AND GLAXOVO MIXERS	2/-	19/-
GLAXO MATERNITY BELTS (9 in. and 10 in. depth)		
Soft rose pink silk	29/6	265/6
White swansdown calico	7/6	72/-
GLAXO TEATS. Unpunctured; Fine; Medium; Premature; 1-, 3- and 5-leech bite		
Nursling	4½d.	3/4½
	9d.	6/9
GLAXO VALVES	3½d.	2/7½

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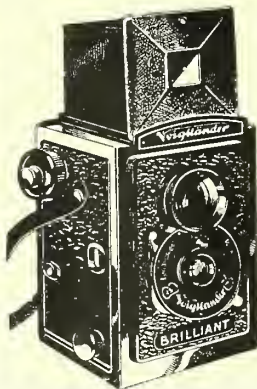
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'TRIKRESOL.'

'UROSELECTAN B.'

'UROTROPIN.'

'VALISAN.'

'VASANO.'

'VERAMON,' etc.

INDEX TO ADVERTISERS

Acton Pill & Tablet Co., Ltd.	lxiv	Burroughs Wellcome & Co. ("Tabloid" Tonics, &c.)	121	Freemans Veterinary Chemists, Ltd. (Dog Rusk, &c.)	lxviii
Allen & Hanburys, Ltd. (Manufactur- ing Chemists)	Cover	Bush, W. J., & Co., Ltd. (Essential Oils, &c.)	101	Freudentheil, Smith & Co. (C.L.O.) ...	89
Allen, Stafford, & Sous, Ltd. (Ex- tracts, &c.)	45	Butler & Crispe (Service)	33	Fromm, H. (Morfi Rubber Products, &c.)	lxxvi
Amo Safety Razor Blade Co., Ltd. ...	26	Calder's Yeast Co., Ltd. (Yeast Tablets)	75	Gardner, W., & Sons (Glos.), Ltd. (Machinery)	lxxiii
Anglo-French Drug Co., Ltd. (Biomu- cine, &c.)	70	Caldicot Tin Stamping Works, Ltd. (Decorated Tins)	xlvi	Garfield Tea Co.	66
Anzora Perfumery Co., Ltd. (Anzora Cream, &c.)	42	Callard & Co., Ltd. (Diabetic Foods)	77	Gelty Distributing Co. (W-5. Brand Tablets)	lxii
Armour & Co., Ltd. (Junket)	116	Calvert, F. C., & Co., Ltd. (Tooth Powder)	26	George, Ernest J., & Co. (Valuer, &c.)	Col. Supp.
Armstrong Cork Co., Ltd. (Corks) ...	xliv	Carnegie Bros., Ltd. (Chemicals, &c.)	vii	Gibbs, Antony, & Sons (Iodine)	xiv
Arnfield, J. C., & Sons, Ltd. (Rasp- berry Vinegar, &c.)	82	Carter Bros. (Neoklenz Nature Cure, &c.)	78	Gladys Cooper Beauty Preps., Ltd. ...	30
Aspro, Ltd. (Aspro)	85	Cartwright, W. B., Ltd. (Indigestion Tablets)	9	Glaxo Laboratories (Glaxo Products)	1
Association of Manfg. Chemists, Ltd. Col. Supp.		Castle, Huskisson, Ltd. (Tablets, &c.)	86	Glycerine, Ltd.	xvi
Atomisers, Ltd. ("Millett" Atom- isers)	xix	Cavendish Chemical Co. (New York), Ltd.	63	Gold Seal Proprietaries, Ltd. (Aspirin Tablets)	84
Ayrton-Graham, Ltd. (Shopfittings)...	lxx	Cephos, Ltd. (Headache Remedy) ...	74	Goodall, Backhouse & Co. (Manufac- turing Chemists)	43
Ayrton, Saunders & Co., Ltd. (Whole- sale Druggists)	92, 93	Christy, T., & Co. (Page Barker Lotion, Co-rega)	28, 1	Graesser-Thomas, H. W. (Aspirin "Fre-flo")	7
Baird, J., & Sons (Sun Proof Goggles)	lxv	Ciné Photo Supplies (Cameras, &c.) ...	lxxii	Greiff, R. W., & Co., Ltd. (Quinine, &c.)	14, 15
Baiss Bros. & Co., Ltd. (Pharmaceu- tical Products)	82	Clark, S. F. (Valuer, &c.)	Col. Supp.	Groat & Co., Ltd. (Crêpe Bandages)...	xxxiv
Bakelite, Ltd. (Moulded Containers)...	xxiv	Clay & Abraham, Ltd. (Ephedrol) ...	103	Guest, T., & Co., Ltd. (Chlorophyll Tablets)	67
Baker Metal Stopper Co., Ltd. (Screw Caps, &c.)	xlvi	Clayton Aniline Co., Ltd. (Pharma- ceutical Specialities)	67	Guyot-Guenin & Son (Tamar Indien Grillon)	lxii
Bandoeng Quinine Factories (Quinine and Salts)	xiv	Clements, Newling & Co., Ltd. (Shop- fittings)	lxx	Hack, Edward (Anit-Thrax Shaving Brush)	lxxii
Barker, R., & Son, Ltd. (Infants Pre- servative)	90	Condensed Gas Co., Ltd.	viii	Hackett, S. E. (Film Overstocks) Col. Supp.	
Barker, R. W., & Co. (Patent Agents)	Page	Continental Laboratories, Ltd. (Ura- lysol)	60	Hall, Forster & Co., Ltd. (Vaporisers) xxxii	
Barnett, Jack L., Ltd. (Bottles)	lxxv	Cook, Geo. (Shopfittings)	Page	Haller Laboratories, Ltd. (Danysz Virus)	lvi
Bathes, Ltd. (D. & P. Service)	106	Cooper Laboratory, Ltd. (Tablets, &c.)	95	Hampshire, F. W., & Co., Ltd. (Vanishing Cream)	38
Batley & Co. (Yerba Maté Tea)	89	Cooper, Son & Co., Ltd. (Cachets) ...	1	Hampson, Fredk. (British Bottles) ...	xxii
Battle, J. C. M. (Vermin Killer)	lvi	Corfield, Ltd. (Rototherm)	xliv	Hanson, W., & Sons, Ltd. (Bottles) ...	lxxv
Bayer Products, Ltd. (Pharmaceuti- cal Products)	viii	Cosser, A. C., & Son (Thermometers), Ltd. (Clinical Thermometers)	xxxiv	Harkness, Beaumont & Co., Ltd. (Malt Extract, &c.)	55
Beaton, Clark & Co., Ltd. (Shop Rounds)	xliv	Cox, A. H., & Co., Ltd. (Pills and Tablets)	Cover	Harley, T., Ltd. (Rodine)	liv
Beechams Pills, Ltd. (Beechams Pills and Powders)	87	Cresswell Bros. (Sponges)	8	Harris, Hart & Co., Ltd. (Glauber Salts, &c.)	108
Bell, John, Hills & Lucas, Ltd. (Sun- burn Cream)	Page	Crookes Laboratories (Collosol Argem- um, &c.)	59	Harrison, A., & Sons, Ltd. (Printing)	106
Benckiser, J. A. (Tartaric Acid, &c.) ...	vi	Cupal, Ltd. (Secto)	1	Harvey & Co. (Dublin), Ltd. (Veteri- nary)	lviii
Benger's Food, Ltd. (Foods)	79	Dae Health Laboratories, Ltd. (New Veet)	27	Hay, Wm., Ltd. (Sun Tan Oil)	38
Bengue & Co., Ltd. (Agocholine, &c.)	64	Davenport, J. T., Ltd. (Chlorodyne)...	lxviii	Haywood, J. H., Ltd. (Surgical Appliances)	xxxviii
Berdoe & Fish, Ltd. (Valuers, &c.) ...	Col. Supp.	Dee Oil Co., Ltd. (Petroleum Jelly)	105	Heward, R. H., Co. (Surgical Ap- pliances)	xxxiv
Berman, A., & Sons, Ltd. (Burmex)...	xxxix	De Gay, Jules (Liquid Paraffin, &c.)	104	Hill, Thos., Engineering Co. (Hull), Ltd. (Bottle Washing Machinery)	lxvi, lxxiii
Berton, Arthur, Ltd. (Sanitary Towels)	94	Dekur Preparations (Turtle Oil Pro- ducts, &c.)	26	Hobson, J., & Son, Ltd. (Black Beer)	89
Betts & Co., Ltd. (Collapsible Tubes)	xlvi	Demuth, R. (Frozone, &c.)	111	Hobson, Trimble & Co., Ltd. (Feet Plaisters, &c.)	xx
Bishop, Alfred, Ltd. (Varelettes, &c.)	50, 51	Denver Chem. Mfg. Co. (Anti- phlogistine)	64	Holroyd's Oil and Ceresine Co., Ltd. (Petroleum Jelly)	1
Blackie, R. (Spun Ointments)	54	Distillers Co., Ltd. (D.C.L. Yeast Tablets)	58	Hopkin & Williams, Ltd. (Chemicals)	iv
Blackwell, Hayes & Co., Ltd. (Gale- nicals, &c.)	xvi	Dixor, Ltd. (Toilet Preparations) ...	30	Houbigant Perfumery	39
Blade Industries, Ltd. (Carnos Blades)	28	Dols Volatile Flannel, Ltd.	lxxv	Hough, Hoseason & Co., Ltd. (Nalga Antiseptic)	52
Blundell & Co. (Liverpool), Ltd. (D. & P. Service)	lviii	Dudley & Co., Ltd. (Display Counters)	Page	Howard, Lloyd & Co., Ltd. (Pills, Tablets, &c.)	84
Blythe, W., & Co., Ltd. (Chemicals)...	vi	Duncan Flockhart & Co. (Anes- thetics)	ii, iii	Howarth's (Cockroach Exterminator)	lxiii
Blyton, Astley & Co., Ltd. (Lozenges, &c.)	1	Duoform, Ltd. (Duo Formula)	lxiii	Hurtley, Fred, Ltd. ("Litespace" Body Belt)	xxx
Bob Martin, Ltd. (Dog Remedies) ...	lii, liii	Edwards Harlene, Ltd. (Hair Toilet Preparations)	2	Ibberson, G., & Co. (Razor Blades) ...	30
Bourjois, Ltd. (Beauty Preparations)	44	Ellams & Co. (Leaflets)	lxii	Iglodine Co., Ltd. (Iglodine)	76
Bowring, C. T., & Co., Ltd. (Vete- rinary Cod Liver Oil)	89	Ellis, J. E., Ltd. (Daisy Headache Powders and Tablets, &c.)	12	Ilford, Ltd. (Selo Cream Rayon Paper)	lviii
Box, W. H. (Box's Pills)	lxxv	English Grains Co., Ltd. (Vestamin)...	76	Ingram, J. G., & Son, Ltd. (Agrappa Teats, &c.)	xxxiii
Bradford Technical College	ix	Eucryl, Ltd. (Dentifrices)	25	Injecta (London), Ltd. (Hypodermic Syringes, &c.)	xli
Brady & Martin, Ltd. (Galenicals, &c.)	x	Evans, Adlard & Co., Ltd. (Filter Papers)	106	International Bottle Co., Ltd.	xxvii
Brierley, John (Valuer, &c.)	Col. Supp.	Evans, Gadd & Co., Ltd. (Drugs, &c.)	68	Jacquesil Fabrics, Ltd. (Face Cloths)	42
British Drug Houses, Ltd., The (Salinax)	122	Evans Sons Lescher & Webb, Ltd. (Sun-Tan Oil)	13	Jeffreys, Miller & Co., Ltd. (Malt Extract and Combinations)	96, 97
British Felsol Co., Ltd. (Asthma Remedy)	Leader Page	Everite Feeder Co., Ltd. (Baby Feeder)	xx	Johns, Son & Watts, Ltd. (Cartons and Boxes)	xxxviii
Britton, Malcolm & Waymark, Ltd. (Druggists' Sundries)	104	Fairchild Bros. & Foster (Digestive Ferments)	Page	Johnson & Johnson (Gt. Britain), Ltd. (Ortho-gynol)	xxxix
Brook, Parker & Co., Ltd. (Tablets, Pills, &c.)	112	Faire Bros. & Co., Ltd. (Powder Puffs)	30	Jones & Co. (Methylators), Ltd. (Methylated Spirit)	104
Brothers Chemical Co. (1922), Ltd. (Precipitated Chalk, &c.)	lxviii	Fairy Dyes, Ltd. (Dyes)	xxxvi	Josephs, Philip, & Sons, Ltd. (Shop- fittings)	xxxviii, Col. Supp.
Brown, Geo., Photo Co., Ltd. (De- veloping and Printing)	lix	Fassett & Johnson, Ltd. (Argyrol, &c.)	66, 99		
Buckley-Bowker Tablet Co., Ltd. (Tablets, &c.)	84	Fecher, M. J., Ltd. (Iodine Bottles, &c.)	xl		
Burall Bros. (D. & P. Service)	1	For, Shapland & Co., Ltd. ("Sol- vo" Toilet Paper)	xxxli		
Burgoyne, Burdidge & Co., Ltd. (Packed Goods)	107				
Burrough, James, Ltd. (S.V.R., &c.)	83				

[Continued overleaf.]

INDEX—cont.

Kay Bros., Ltd. (Flycatchers)	lvi	Newcastle-on-Tyne Zinc Oxide Co., Ltd.	108	Spicer, E. H., & Co., Ltd. (Emulsion Lactobacillus Acidophilus)	63
Kembhall, Bishop & Co., Ltd. (Chemicals)	71	Nobby's Products, Ltd. (Extract for Brewing)	102	Stapleton & Son (Archanium)	90
Kemsales, Ltd. (Besorbon)	lxii	O'Brien, T., Ltd. (Cash Tills)	106	Stemco, Ltd. (Flit)	lvii
Kent, G. B., & Sons, Ltd. (Pedigree Brushes)	43	Olley, C., & Sons, Ltd. (Corks)	xlvi	Stephens Bros. & Banner, Ltd. (Essential Oils, &c.)	43
Kilpert, G., & Co. ("Kilpert")	lviii	Oralite Co., Ltd. (Denture Soap)	28	Sterns, Ltd. (Oils, Petroleum)	70
King, G., & Co., Ltd. (Foods)	91	Orridge & Co. (Valuers, &c.)	Col. Supp.	Stevenson, H. E., & Co., Ltd. (Halibut Liver Oil)	100
King, J. C., Ltd. (Shopfittings)	lxxxv	Paines & Byrne, Ltd. (Glandular Products)	65	Sturge, J. & E., Ltd. (Citric Acid)	xv
Kof-Oh Co., Ltd. (Corn Remover)	xxxii	Paramount Products, Ltd. (Confectionery)	120	Sunsweets, Ltd. (Sunax Pastilles)	77
Kolynos (Sales), Ltd. (Kolynos Dental Cream)	29	Park, Buckridge & Co. (Dartring Lanoline, &c.)	lxiii	Sure Seal & Sutax, Ltd. (Capping Machines)	xl
Lamb & Watt, Ltd. (Wines)	102	Parkinsons, Ltd. ("Vitagrains," &c.)	109	Surgical & Chemical Co., Ltd. (Hypodermic Syringes, &c.)	xxxv
Lambert, L., & Co., Ltd. (Caramel)	xix	P.A.T.A. Patent Phosphates & Merchandise, Ltd. (Rice Starch, &c.)	88	Surgical Hosiery Co., Ltd.	xlvi
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La Parfumerie Moderne	38	Perry's Powders, Ltd. (Head Powders)	63	Synthite, Ltd. (Formaldehyde)	li
Lander, L. T. (Bottle Filling Machine)	lxvi	Pifco, Ltd. (Dry Batteries)	1	Taylor, Edward, Ltd. (Fastaid Dressings)	xx
Lawrence, G. H., Ltd. (Razor Blades)	43	Pindar, J. W., & Co. (Machinery)	lxviii	Tenz, Ltd. (Deodorant Tablets)	1
Lawrence, T. B., Ltd. (Van Advertising)	10	Pitman, Sir Isaac, & Sons, Ltd. (Books)	lxxxii	Thomas & Linton, Ltd. (Susie's Perfect Cleaner, &c.)	1
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Mawdsley, D., & Co. (Service)	56	Saville Perfumery, Ltd. (June Beauty Products)	32	Westminster College of Pharmacy	ix
May & Baker, Ltd. (Chemicals, &c.)	72, 73	Schering, Ltd. (Medicinal Preparations)	4	Whiffen & Sons, Ltd. (Alkaloids, &c.)	Cover
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Meggeson & Co., Ltd. (Medicated Sweets)	i	Scurr, C. A. (Optical Tintion)	Page	Wilkinson, S. W., & Co. (Tablet Machines, &c.)	lxxi
Melrose-Drover, Ltd. (British Wines)	102	Selka Rubber Works, Ltd. (Selka)	xxx	Williams, G. M., & Co. (Cystex)	120
Menley & James, Ltd. ("Iodex")	lxxxiv	Shadeine Co. (Hair Dyes)	lxvii	Willows, Francis, Butler & Thompson, Ltd. (Galenicals)	81
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Monsanto Chemical Works, Ltd. (Chemicals)	113	Sinclair, J., & Son (Printing)	61, 62	Woodrow, H. T., & Co., Ltd. (D.D.A. Registers)	1
Mottrix Sales Co. (Film Machines)	lxxxii	Smith, Martin H., Co. (Ergoapitol)	90	Wright Display Specialists	lxvi
Mundet Cork Products, Ltd. (Corks and Stoppers)	li	Smith, T. & H., Ltd. (Alkaloids)	vi	Zeal, G. H., Ltd. (Clinical Thermometers)	xlvi
Mysore, Trade Commissioner for, in London (Sandalwood Oil)	ix	Smith, T. J., & Nephew, Ltd. (Elastoplast Dressings)	Cover	Zimmermann, A. & M. (Chemicals)	xiv
Nageles (Overalls)	42	Societiet voor Chemische Industrie (Caffeine, &c.)	iv	Zimmermann, C., & Co., Ltd. (Chemicals, &c.)	xlvi
Napp, H. R., Ltd. ("Normacol")	xi	Solazzi Liquorice	xvii		
National Association of Opticians	Col. Supp.	Solport Bros., Ltd. (Sports Shades)	37		
National Cash Register Co., Ltd., The Neill, J., & Co. (Sheffield), Ltd. ("Eclipse" Razor)	42	Southall Bros. & Barclay, Ltd. (Drugs, &c.)	34, 35, xxxiv		
New Era Treatment Co., Ltd. (Elasto)	lxi	South of England College of Pharmacy	Leader Page		
Newball & Mason, Ltd. (Extract of Herbs)	100	Speer, W. R., & Son (Toothbrushes)	28		

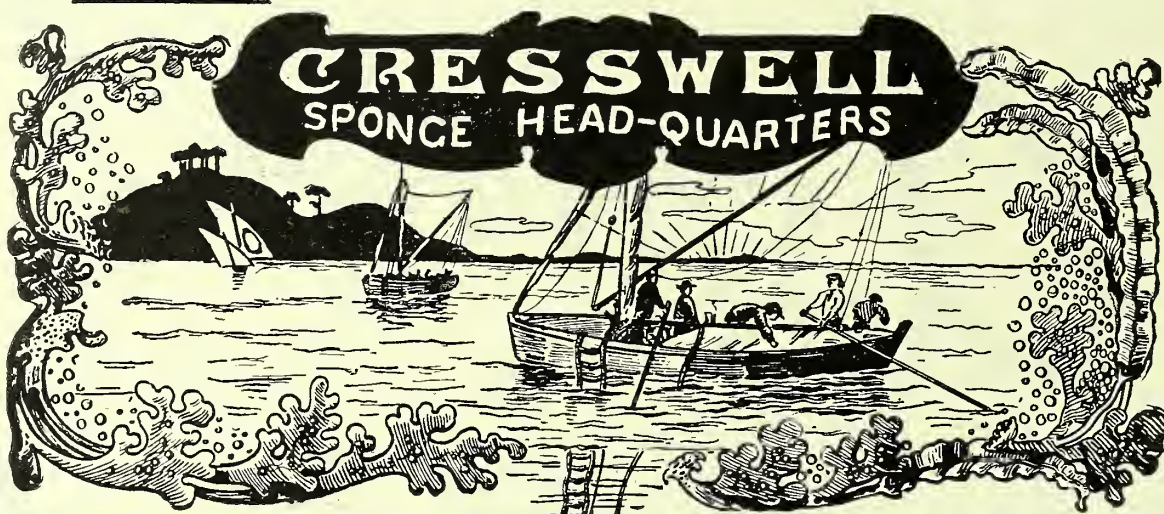
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We have imported from our own Packing Depot at Aegina, Greece, 200 Cases of Honeycomb Sponges, specially selected for

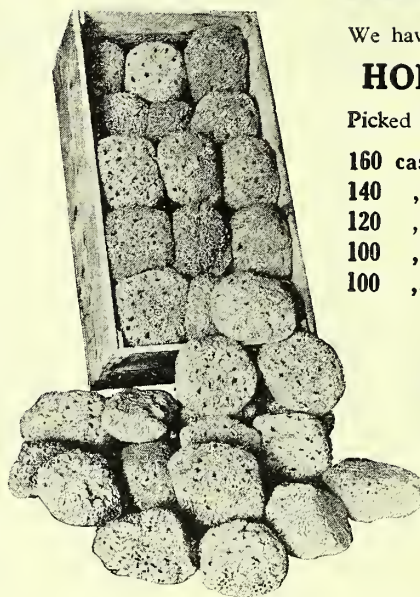
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Strong, good Sponges, which would prove quick sellers and yield satisfactory profit to retailer.

We strongly recommend this line, and shall be pleased to forward a sample case carriage paid.

Telephone—HOLBORN 1432



We have also imported the following cases—

HONEYCOMB SPONGES

Picked Hand Shapes for Toilet and Bath use.

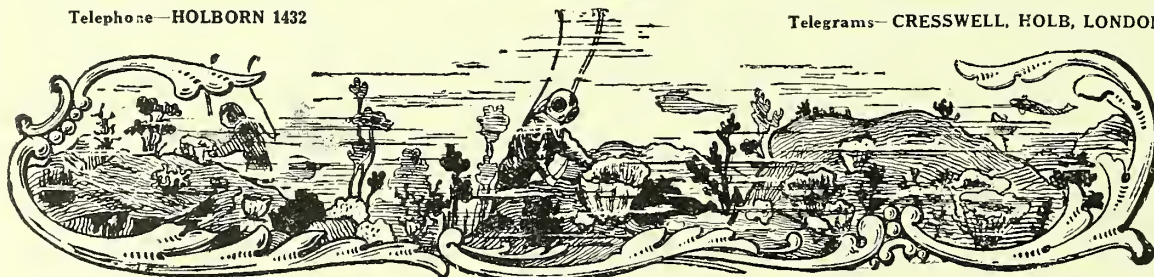
160	cases	containing	250	pieces	10d.	each
140	"	"	200	"	1/4	"
120	"	"	140	"	2/-	"
100	"	"	112	"	3/-	"
100	"	"	84	"	3/9	"

SPECIAL FOR SUMMER SALE

80 cases Honeycomb Toilet Hand Shapes containing 200 pieces at 10½d. each. An excellent quick-selling bargain line.

If desired, we could cellophane wrap and ticket, free of charge, each Sponge in these lines, to keep them always fresh and clean.

Telegrams—CRESSWELL, HOLB, LONDON



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Branch of International Sponge Importers, Ltd.

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers,

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With the Largest Stocks of all Sponges Imported direct by us from the Fisheries at Lowest Prices. Write for Prices. We invite Competition.

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It pays to display Moorlands

The Public will have

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BRAND
INDIGESTION TABLETS

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SAY Schweppes!



In the household Soda-water is a necessity and Schweppes have found that the T.B.L. Van-poster makes a direct appeal to the housewife.

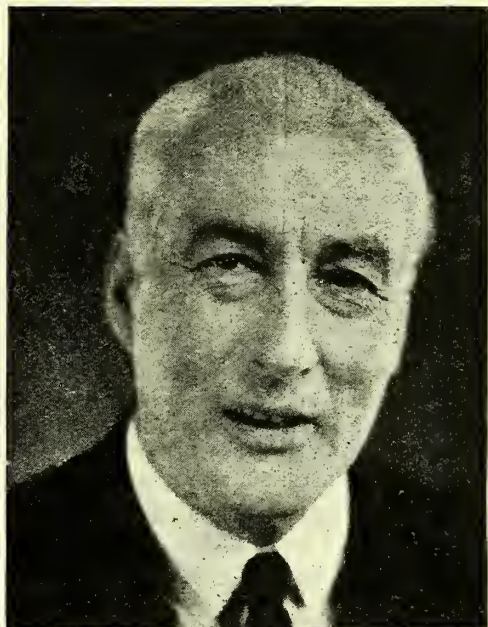
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You can get your share of this publicity by stocking Schweppes' Syphons of Soda—always a ready seller.

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ORIGINATORS OF POSTERS ON DELIVERY VANS,
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Sundries from
Maws—
because it pays
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- They offer me unique Salesmen and Display Cases of proved Selling Value.
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- They send a competent representative to visit me regularly, with a full range of samples.
- Their showroom in London is the best in the trade.
- Having regard to their quality and policy, their prices are highly competitive.
- I find that their quality and reputation, plus my personal recommendation, is an unbeatable combination.

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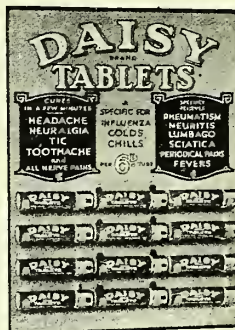


Every customer who enters your shop is a prospective buyer of DAISY, for DAISY is a specific for many of the common recurring ailments. Of all nationally advertised medicines DAISY is the most profitable to you. Always keep DAISY displayed.

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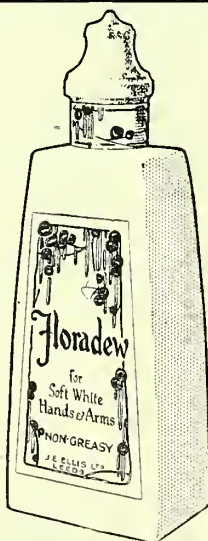
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For Everyone—

The elegance of soft,
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It is so simple—just an easy finish to the toilette—a few drops of Floradew shaken from the flask and rubbed gently into the hands and arms. Cooling, delicately perfumed, non-greasy, delightful to use. And what a result it brings! The most fascinating of feminine charms, hands worthy of kissing, delicate, soft, white arms to grace evening dress and sleeveless frocks. Floradew is a scientific preparation; absolutely non-greasy, it never soils dainty frocks or bedclothes.



Floradew
(Non-Greasy) 1' Sprinkler
Flask

FOR SOFT WHITE HANDS AND ARMS.

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**An entirely new
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Commodore *Perfection* Hair Cream is a scientific hair dressing. It fulfils a long-felt want in providing a hair cosmetic which is not only effective, but which is absolutely non-injurious to the hair structures.

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PERFECTION
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7/- per doz. 9/6 per doz. 15/6 per doz.

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Vegetable Oil suitably
coloured without
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mineral oil

Sizes :
2 oz. and 4 oz.



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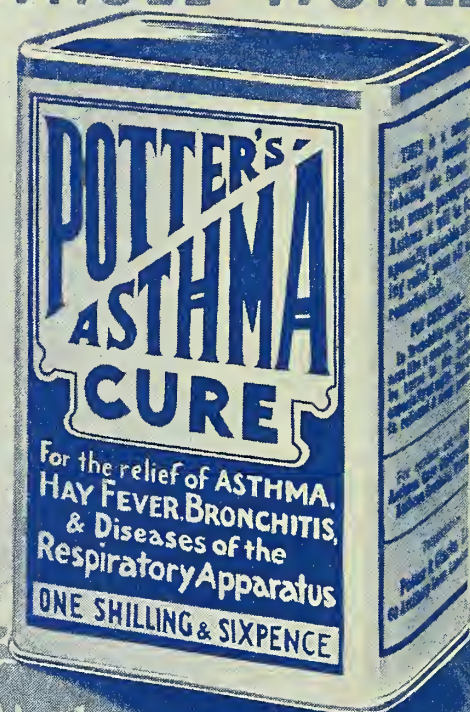
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Assure protection against infectious diseases
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Allow to dissolve slowly in the mouth breathing through the nose to allow the healing properties to act directly upon the respiratory organs.

P.A.T.A. 1/3 11/- doz.
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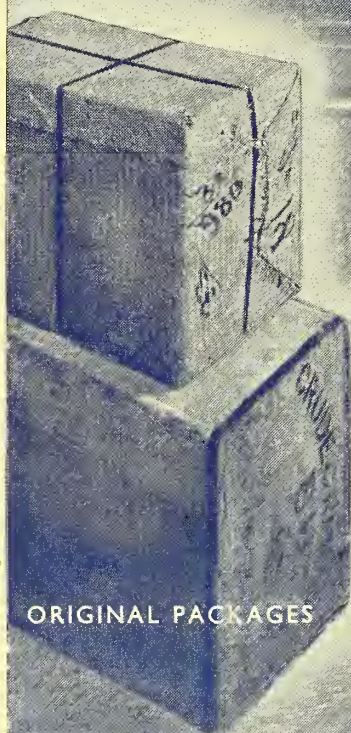
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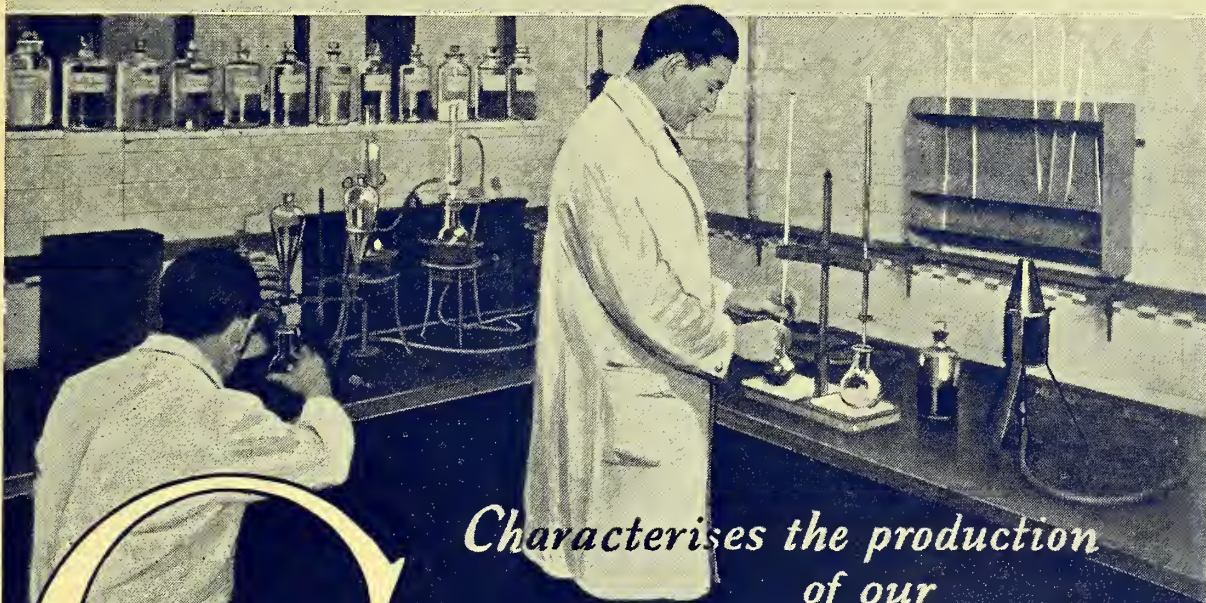
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Effervescent. Dr. Buchanan's
 7d. Tins Per doz. 4/9

LIVER SALTS, Clarke's 7½d. Tins Per doz. 5/-
 HEALTH SALTS, Clarke's 4 oz. Tins Per doz. 4/6
 All the year round

HEALTH SALTS, "Purity"
 6d. Tins Per doz. 3/9



Citrate of Magnesia

EFFERVESCENT

4 oz. weight (Cheltenham) as illus. 6/- per doz.
 8 oz. weight (Kalis) 9/- " "
 12 oz. weight " 12/- " "
 16 oz. weight " 15/- " "

POTTER & CLARKE

LTD.

Telephone : 60 - 64 ARTILLERY LANE, LONDON, E.1
 Bishopsgate 4761 (5 lines)
 Telephone :
 Blackfriars 8734

AND AT 77 DANTZIC STREET, MANCHESTER, 4

Telegrams: "Horehound,
 Phone, London"

Telegrams: "Horehound,
 Manchester"

POTTER'S

Catarrh Pastilles

The well-known remedy for all bronchial complaints. National advertising and unvarying quality ensure a constant sale.

P.A.T.A. 1/3 11/- doz.
IN BOXES OF $\frac{1}{2}$ DOZENS



Stock up now for
"all-the-year-round" sales

POTTER & CLARKE

LTD.

60-64 ARTILLERY LANE, LONDON, E.1.

'Grams : "Horehound, Phone, London."

'Phone : Bishopsgate 4761 (5 lines).

AND AT 77 DANTZIC STREET, MANCHESTER 4.

'Grams : "Horehound, Manchester."

'Phone : Blackfriars 8734.

PROFIT

EUCRYL TOOTH POWDER
EUCRYL TOOTH PASTE
EUCRYL DENTURE POWDER

Bought on Display Terms yield:—

PROFIT ON SELLING PRICE **43%**

PROFIT ON BUYING PRICE **75%**

(IN UNITED KINGDOM ONLY)



EUCRYL

DENTIFRICES

EUCRYL LTD.

Established 1900
Manufacturing
Chemists

SOUTHAMPTON



DEKUR Preparations

for Health and Beauty

1. DEKUR Turtle Oil Products

- No. 1. DEKUR Bonne Nuit Turtle Oil Cream.
Emollient and easily assimilated, for softening and whitening the skin.
- No. 10. DEKUR Anti-wrinkle Turtle Oil Cream.
Double strength of No. 1. Specially for neck and under the eyes.
- No. 3. DEKUR Liquid Milk Soap (containing Turtle Oil).
for cleansing the skin, leaving it soft and white.

2. DEKUR Sebum Baths and Lotion

- No. 17. Sebum Bath for Hands (patent)
No. 18. Sebum Bath for Feet (patent)
No. 19. Sebum Lotion.

Correct the function of the sebaceous glands, thus feeding the skin and making it healthily alive.

- No. 20. DEKUR TRAVELLING DOUCHE.
No. 21. DEKUR LOTION FOR HYGIENE.
(SPECIALLY DESIGNED IN A CONVENIENT FORM FOR GENERAL USE AND PARTICULARLY FOR TRAVELLING.)
- No. 16. DEKUR S.O.S. ANTI-RHEUMATISM MIXTURE.
(CONTAINS NO DRUGS OR HARMFUL INGREDIENTS.)
- No. 24. DEKUR THERMOGENE BALSAM.
(RAPIDLY RELIEVES PAIN IN JOINTS AND MUSCLES.)

ENTIRELY BRITISH MADE

From your wholesaler, or direct

DEKUR PREPARATIONS IMPERIAL HOUSE, 80-86 REGENT ST., LONDON, W.1.

TEL.: REGENT 3840



CALVERTS NEW TINS

The new improved shape 6d size—wider and flatter—allows the tooth brush to pick up the last piece of powder easily.

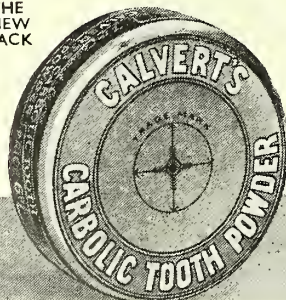
● IMPROVED MODERN PACK

makes Calverts easier and more economical to use, more attractive to display.

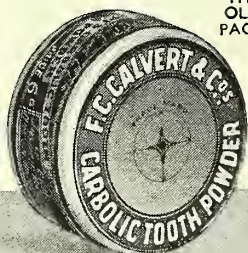
● STRIKING NATIONAL ADVERTISING

is driving home the advantages of Calverts, recruiting new users every week.

THE NEW PACK



THE OLD PACK



STOCK BRITISH NATIONALLY ADVERTISED RAZOR - BLADES

A vigorous advertising campaign is now being launched in a large and influential group of national and provincial newspapers (whose combined circulations run into many millions) to stimulate AMO sales still further, and bring extra profit and prestige to all stockists. Every AMO stockist will benefit by this big sales drive and every other retailer can benefit by stocking AMO blades and products.

A generous bonus scheme is also in operation in conjunction with this sales drive and will be in force from

JUNE TO OCTOBER

Apply now for details of One Pound Bonus Parcels and complete illustrated list of Shaving and Toilet Requisites. Wholesale enquiries invited.



This attractive four-colour showcard enables retailers to purchase a minimum quantity representing three types of blades with the advantage of best trade terms.

Send **5/6** for complete showcard post free. Comprising 4 pkts. of 5's to fit Auto-stop holders 4 " " 5's " " Ever-ready " 4 " " 6's " " Three-hole blades
YOUR PROFIT 5/6 or 100%
May be supplied on your account through your usual wholesaler.

Advertisements are appearing in these papers:—

Daily Mail
Daily Express
Daily Herald
News-Chronicle
Star
Evening Standard
Manchester Daily Dispatch
Empire News
Liverpool Echo
Birmingham Mail
Leeds Yorks. Evening Post
Plymouth Western Morning News
Bristol Evening Post
AMOSAFETY RAZOR BLADE CO., Ltd.
Broad St. House, London, E.C.2



85% Profit

for a Summer Display

NEW VEET

85%

PROFIT

For a good display we offer in addition to usual terms (33 1-3% & 5% Cash Discount)

A BONUS OF 2 TUBES FREE

PER DOZEN ON ALL SIZES

(Minimum Order 3 dozen assorted) Example Orders :

EXAMPLE 1

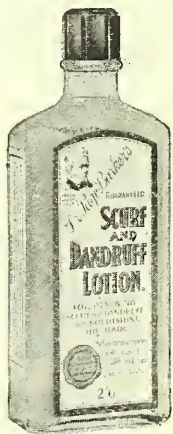
	Trade	Retail
6 dozen Veet 6d. -	24/-	36/-
2 dozen Veet 1/6 -	24/-	36/-
1 dozen Veet 3/- -	24/-	36/-
	<u>72/-</u>	<u>108/-</u>
Less 5% Cash Dis. 3/7		
	<u>68 5</u>	
FREE GOODS :		
1 dozen Veet 6d. -	-	6/-
1-3rd dozen Veet 1/6 -	-	6/-
1-6th dozen Veet 3/- -	-	6/-
		<u>126/-</u>

EXAMPLE 2

	Trade	Retail
3 dozen Veet 6d. -	12/-	18/-
1 dozen Veet 1/6 -	12/-	18/-
$\frac{1}{2}$ dozen Veet 3/- -	12/-	18/-
	<u>36/-</u>	<u>54/-</u>
Less 5% Cash Dis. 1/10		
	<u>34 2</u>	
FREE GOODS :		
$\frac{3}{4}$ dozen Veet 6d. -	-	3/-
1-6th dozen Veet 1 6 -	-	3/-
1-12th dozen Veet 3/- -	-	3/-
		<u>63/-</u>

OFFER CLOSES 21ST JULY SEND YOUR ORDER NOW

DAE HEALTH LABORATORIES LTD..
Cunard Road, London, N.W.10



Dr Page-Barker's SCURF & DANDRUFF LOTION

THE GUARANTEED SPECIFIC

A cast-iron Guarantee with every Bottle

18/- per dozen. 2/6 P.A.T.A.

Larger Sizes—28/- and 36/- per dozen

With every order for three dozen you get a bonus of three 2 6 bottles and smart showcards.

Dr. PAGE-BARKER'S SCURF and DANDRUFF POMADE

Specially prepared for DRY SCALPS.
1/6 size 10/- doz. 2 6 size 15/- per doz.

WRITE FOR EXPORT TERMS

THOS. CHRISTY & CO., LTD.

4-12 OLD SWAN LANE, LONDON, E.C.4.



CARNOS RAZOR BLADES

REGISTERED OCT. 1922

LARGE SPACE CARNOS ADVERTISEMENTS ARE APPEARING IN AN INFLUENTIAL GROUP OF NATIONAL AND PROVINCIAL PAPERS

DAILY HERALD, STAR,
EMPIRE NEWS, MAN-
CHESTER EVENING
CHRONICLE, GLASGOW
EVENING TIMES, SOUTH
WALES ECHO, NEWCASTLE
EVENING CHRONICLE,
LIVERPOOL ECHO, YORK-
SHIRE EVENING POST,
EDINBURGH EVENING NEWS,
SHEFFIELD TELEGRAPH,
BIRMINGHAM MAIL,
HULL DAILY MAIL,
DUNDEE
COURIER

12
FOR
6D.

Get
Ready for the
Big Demand.
Apply of your
Wholesaler for Terms
or write for Complete List.
Wholesaler Enquiries invited.
BLADE INDUSTRIES LTD., DEPT. 60,
TRADING ESTATE, SLOUGH, BUCKS.

NATIONALLY ADVERTISED

OVER FIVE THOUSAND DENTISTS

are now using, and recom-
mending their patients to use

ORALITE DENTURE SOAP

The most effective cleanser and steriliser known
for NATURAL TEETH, ARTIFICIAL TEETH
— and the GUMS —

A national advertising campaign is now in progress
and we urge you to write at once for particulars
of our attractive "First Order Terms."

THE ORALITE CO., LTD., THORNTON, Blackpool, Lancs.

"ODENTIC" PLATE BRUSH

Regd. No. 417637.



From all
Wholesalers.

Manufacturers.

W. R. Speer & Son (EST. 100 YEARS)
215 DALSTON LANE - - LONDON, E.8

The Gift Scheme without a Snag!

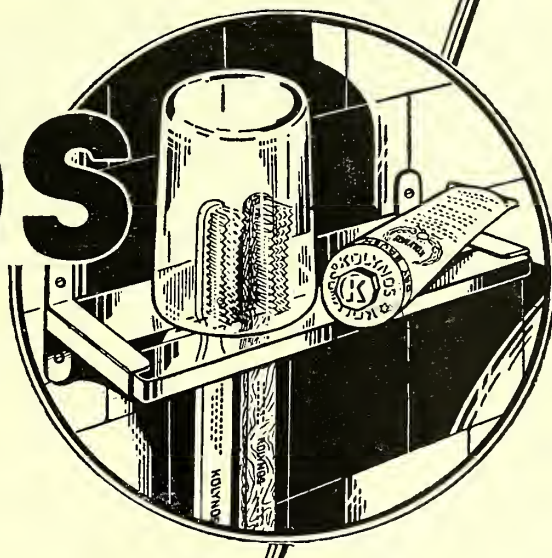
FREE **THIS HANDSOME CHROMIUM TOOTH BRUSH & TUMBLER HOLDER**

(Devoid of any Advertising Matter) Prov. Patent 4194/34 design reg.

TO USERS OF KOLYNOS

DENTAL CREAM (REGD.)

★ In return for two of the Sepia coloured leaflets showing picture of Kolynos Products one of which is enclosed in every 1/9 package.



★ This Gift Scheme entails NO extra work in the pharmacy, NO wrapping, and NO distributing of bulky packages.

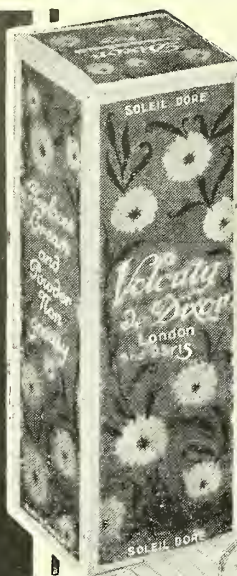
★ Your present stock contains sepia leaflets entitling purchasers to this gift. NO necessity for re-packing. NO waiting for new stock.

Pharmacists in all parts of the Country are reporting greatly increased sales—users everywhere are expressing delight with this unique gift—Are you "cashing in" on Kolynos the business bringer?

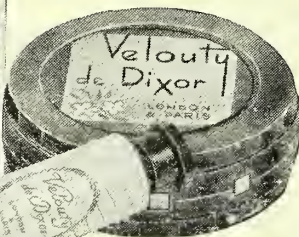
If you have not yet received your SPECIMEN FITTING and SHOWCARD make application today.

Illustrated Counter Wrappers announcing this Gift are available.

KOLYNOS (Sales) LTD., 12 Chenies St., LONDON, W.C.1



Display-
The Original
Combined
Cream &
Powder



Especially

Soleil Doré

(Sungold)

*the shade for the . . .
Suntanned Complexion*

now being featured in our Press
Advertisements.

Supplied in all standard packings:
P.A.T.A. Prices.

Tubes		Retail.	Wholesale.
No. 1	...	4½d.	3/- per doz.
No. 2	...	6d.	4/- "
No. 3	...	1/-	7/- "
No. 4	...	2/-	14/- "
No. 5	...	3/-	22/- "
Pots			
Glass	...	2/9	21/- "
de Luxe (unbreakable)	...	4/6	36/- "
Handbag (unbreakable)	...	1/3	10/- "

Other shades of Velouty are:
White, Ivory, Natural and Ochre

*Send a postcard for the
new Sungold Showcard*

VELOUTY
de **DIXOR**
THE ORIGINAL
COMBINED CREAM AND POWDER

DIXOR LTD.
DANEMERE STREET, LONDON, S.W. 15.

SPHERE SUPERB POWDER PUFFS

*British
Made*



IN ATTRACTIVE DISPLAY BOX (2 Doz.) 5/6

Lustrous effects in soft Pastel colours. Assorted
sizes, 2", 2½", 2¾" and 3½", six of each size to the 2 doz.
box. The material is a lovely Silkiedown Velour.

Each Puff in neat sealed Cellophane wrapping.

PLEASE WRITE FOR SAMPLES AND PRICES

FAIRE BROS. & CO. LTD., LEICESTER

SALES STEADILY GOING UP!

**GLADYS COOPER'S
BEAUTY PREPARATIONS**

**NOW ADVERTISED EACH
WEEK TO A MILLION
WOMEN THROUGH THE
DAILY MIRROR—Look to your stocks**

TRADE TERMS 33½%. From all Wholesalers.

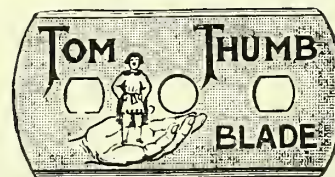
Gladys Cooper's Beauty Preparations, Ltd.,
121a Hampstead Road, London, N.W.1

HANG IT

**UP AND LET
IT SELL ITSELF**

1d.
Each
Retail

Supplied on cards or
boxed. Show cards
with every order.



MADE BY
GEORGE IBBERTSON & CO.
Razor Works, 146 West St., Sheffield

British Made

"I know it's the Best"

RECOMMENDATIONS
FROM FAMOUS FILM
STARS—FEATURED IN

SUMMER ADVERTISING CAMPAIGN

NOW IN FULL
SWING

The growing demand for Potter & Moore's Mitcham Lavender will be further stimulated by enthusiastic testimonials from such famous stars as Cicely Courtneidge, Gracie Fields, Evelyn Laye, Fay Compton, etc. etc.

These testimonials will be boldly displayed in large space advertisements continuously throughout the summer in the National Press including the "Daily Mail," "Daily Mirror," "Daily Sketch," "Sunday Pictorial," etc. etc.

To participate in the benefits of this campaign, *you must display*. If you are short of material please write at once to the address below.

Don't forget your profit is good, and you are protected under the P.A.T.A.

CICELY COURTNEIDGE says

"I KNOW IT'S THE BEST"

Miss Cicely Courtneidge, the famous Gaumont-British Film Star, says: "When buying Lavender the other day I was much annoyed to be offered another brand when I asked for Potter & Moore's. I have tried other Lavenders and I know from long experience that Potter & Moore's Mitcham Lavender is the best."

"There is nothing to compare with its delicate bouquet and lasting fragrance."

For all outdoor recreations lavender is the ideal perfume—and to try Potter & Moore's Mitcham Lavender is to know how really delightful lavender can be.

In dainty sprinkler "Tassie" £1/6, 2/6 & 3/6.

6¹/₂ oz. bottle £1/11, 2/11 & 3/11.

As at all good chemists & druggists.

**Potter & Moore's
MITCHAM
LAVENDER**

Specimen of one of the advertisements now appearing continually in the National Press.

Potter & Moore's

Original Mitcham LAVENDER



IT'S REPEAT BUSINESS THAT COUNTS

THAT IS WHY CHEMISTS EVERYWHERE ARE
MAKING SPECIAL DISPLAYS OF

Saville's
June Series
Perfumery

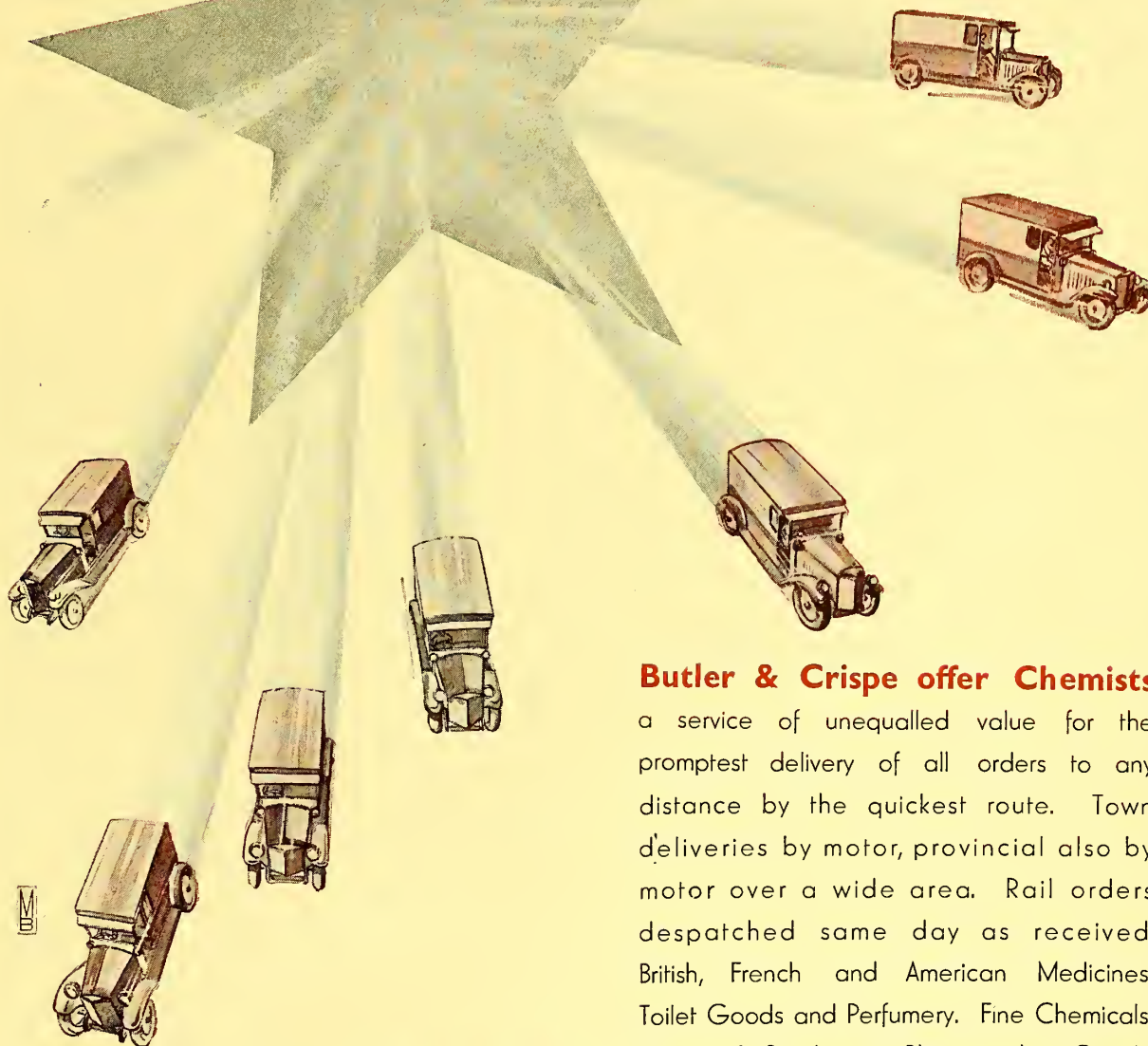
EVERY SALE OF THIS ENCHANTING PERFUME CREATES ANOTHER
—AND YET ANOTHER—HENCE ITS WORLD-WIDE POPULARITY.

THE CHARMING CUT-OUT CENTRE-PIECE
ILLUSTRATED ABOVE—SENT CARRIAGE PAID
ON ALL ORDERS VALUE £2 AND OVER.

SAVILLE PERFUMERY LIMITED

WATFORD, HERTS

**NO QUICKER SERVICE
NO BETTER PRICES**



Butler & Crispe offer Chemists

a service of unequalled value for the promptest delivery of all orders to any distance by the quickest route. Town deliveries by motor, provincial also by motor over a wide area. Rail orders despatched same day as received. British, French and American Medicines, Toilet Goods and Perfumery. Fine Chemicals. Druggists' Sundries. Photographic Goods.

BUTLER & CRISPE

J. H. CRISPE

L. H. CRISPE

R. P. GOWER

80-84 CLERKENWELL ROAD, LONDON, E.C.1

Established 1777

'Phone : Clerkenwell 2661 (15 lines)

'Grams : Alluwant, Smith, London

Cables & Marconigrams : Alluwant, London
B B *

PROGRESS

SOUTHALLS OFFER QUICK EFFICIENT SERVICE

The illustration shows 4 of Southalls' fleet of vans loading at their new warehouse premises in Gooch Street. QUICK DELIVERY is effected over a wide area by Southalls' own swift motor vans and still further afield by daily carrier.



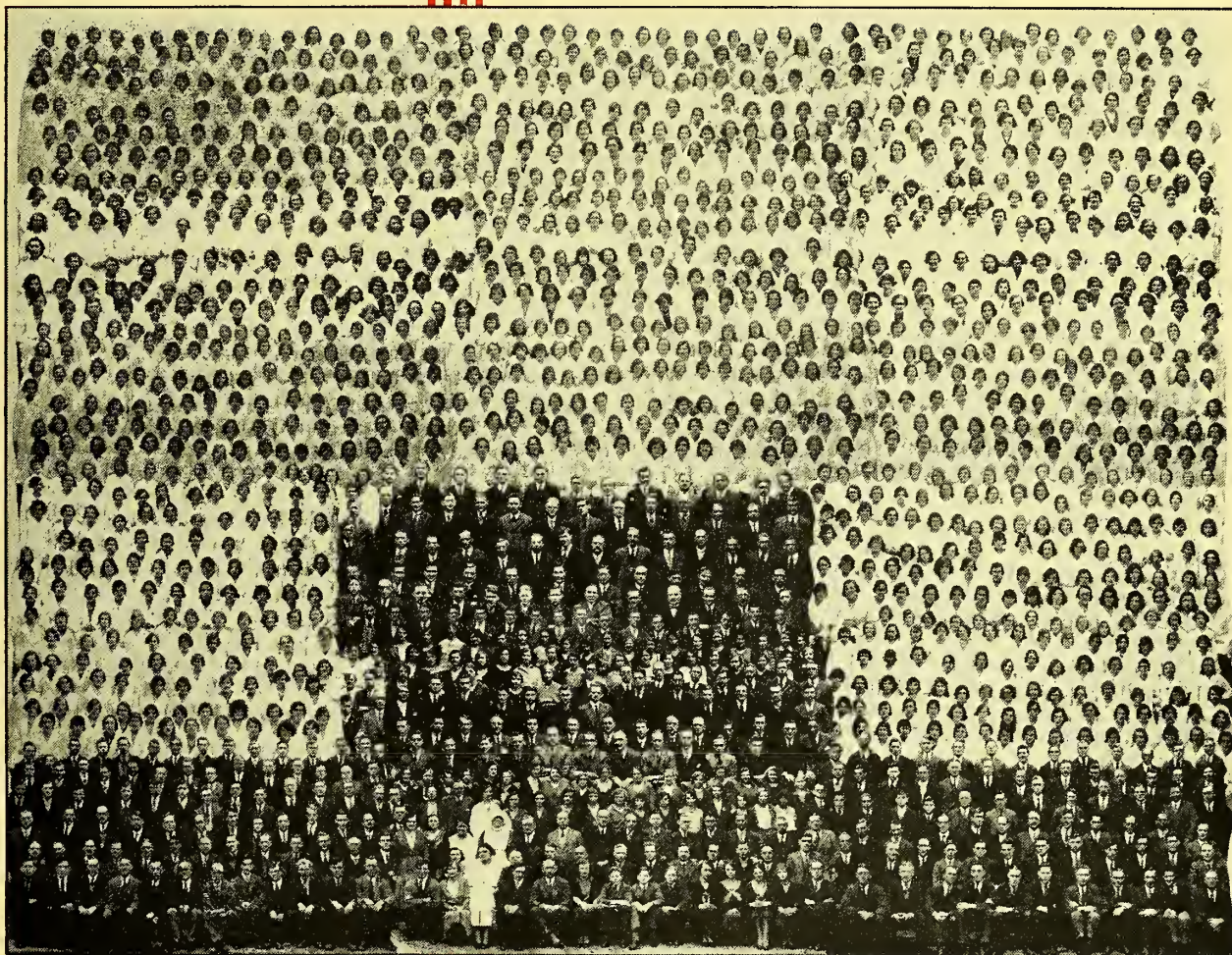
SOUTHALLS

REC'D

SOUTHALL BROS. & BARCLAY, LTD.,

of the HOUSE of SOUTHALLS

● Some of the 1,800 people
employed by SOUTHALLS.



DRUGS.

PACKED GOODS.

PATENT MEDICINES.

DRUGGISTS' SUNDRIES.

SURGICAL DRESSINGS.

PHOTOGRAPHIC & LABORATORY APPARATUS.

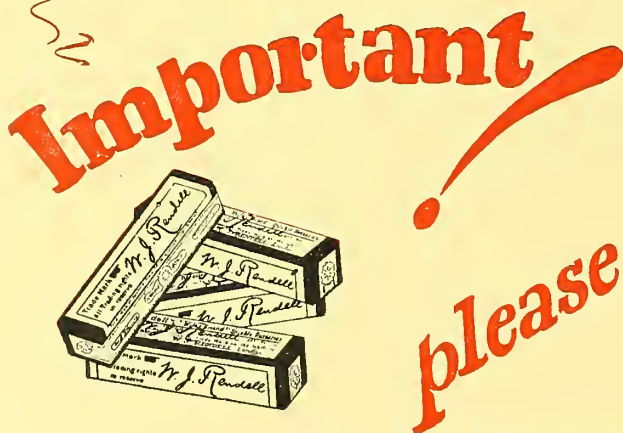
PRIORY HOUSE, BIRMINGHAM



THINK before you plunge

Is it wise to offer your customers a contraceptive of uncertain origin? The answer is definitely no!

Rendell's Pessaries have not only been proved efficacious by users during the past 50 years but are recognised by the Medical Profession to be the safest and best.



Remember that we keep a list of chemists who supply our goods so that the public can be advised where they can obtain supplies.

write for special advertising material and thus obtain your full share of this important and ever increasing business.

W. J. RENDELL LTD.,
HARDWICK HOUSE, 161-5 ROSEBERY AVENUE, LONDON, E.C. 1

Portia
Regd

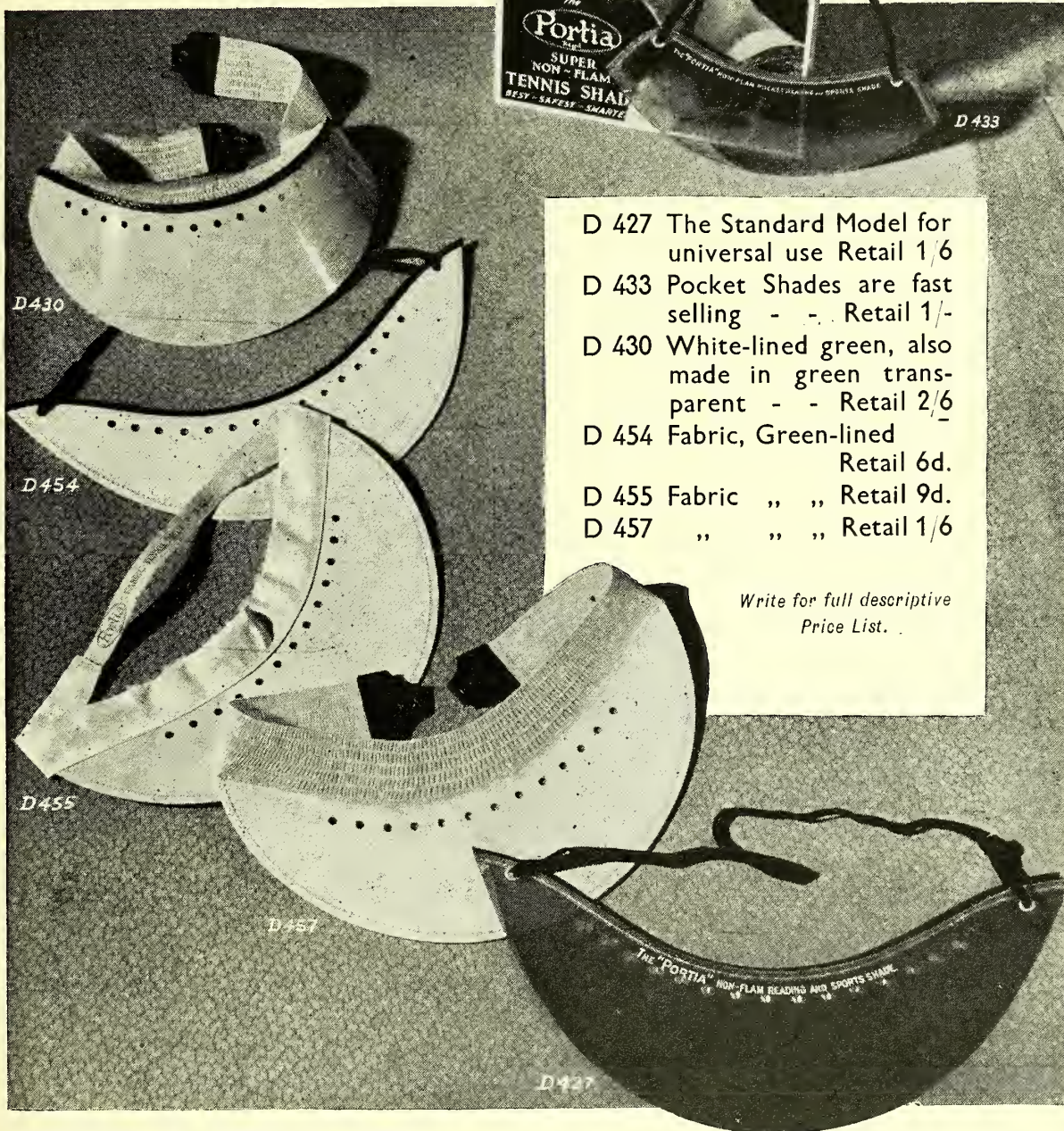
NON-FLAM and FABRIC

Sports shades

help Summer Sales



This art Showcard, supplied free on request, is a big aid to sales.



- D 427 The Standard Model for universal use Retail 1/6
- D 433 Pocket Shades are fast selling - - Retail 1/-
- D 430 White-lined green, also made in green transparent - - Retail 2/6
- D 454 Fabric, Green-lined Retail 6d.
- D 455 Fabric „ „ Retail 9d.
- D 457 „ „ „ Retail 1/6

Write for full descriptive Price List.

SOLPORT
BROTHERS LIMITED

184-192 GOSWELL ROAD, LONDON, E.C. Telephone :
Clerkenwell 9211 (3 lines)



3 OZ. CELLOPHANE WRAPPED

SPECIAL FEATURES

QUALITY
 LABEL
 PACK
 PRICE

HAY'S

The most popular product of its class on the market—the genuine article, promotes a beautiful sun bronzed complexion.

1 oz. bottles - - 3/6 doz. - - 39/- gross
 3 oz. flasks - - 6/3 " - - 69/- "

(Show Material Free with all Orders)

For free sample, etc., write to:
 Department D.8, William Hay Limited,
 Manufacturing Chemists - - HULL

(This advt. does not apply to I.F.S.)

SUN TAN OIL

**Here's the cream
 your customers
 want - DISPLAY
 IT AND PROFIT**

There's a huge market for Snowfire Cream—all satisfied users recommend this popular Vanishing Cream to their friends and strong advertising increases the demand still further. Get **your** share. Stock Snowfire Cream and display it. That's all you need do—it sells itself. And how it pushes up each month's figures!

Handbag Containers, 3d.

Dainty Tubes, 6d. Retail

Snowfire
 vanishing
Cream



Manufactured by
F. W. HAMPSHIRE & CO. LTD.
 Sunnydale, Derby.

A Good Seller!



PROFITS ARE GENEROUS. SALES ARE QUICK. CUSTOMERS ALWAYS SATISFIED.

As a tonic to prevent hair falling, to promote growth and a natural colour restorer for grey or faded hair,

MORGAN'S POMADE

HAS NO EQUAL

It has been before the public for over 40 years, and testimonials from all over the world prove its wonderful efficacy. MORGAN'S POMADE is as near the ideal selling line as any Hair Preparation can be.

P.A.T.A.

Retail 1/9 & 3/3; Wholesale 14/- & 26/- per doz.

AN EQUALLY SOUND AND PROFITABLE LINE:

Marie Antoinette Egg Julep Shampoo Powder

The original Egg Julep Shampoo. Promotes healthy, vigorous growth, acts as a valuable disinfectant and removes all dandruff. Harmless in use.

P.A.T.A.

Retail 3d. per packet; Wholesale 24/- per gross. Retail 1/6 per box of 7; Wholesale 13/- per doz.

The MARIE ANTOINETTE Co., Ltd.

149 JUNCTION ROAD, LONDON, N.19

LA PARFUMERIE MODERNE

(Established 1908)

*An Illustrated Monthly Review of the
 Perfumery and Allied Industries*

The regular publication (in English and Spanish as well as in French) of technical and practical articles on Essential Oils and Synthetic Perfumery Products is a feature of this popular Trade Journal.

Specimen copy and all particulars from.

15 rue Constant, Lyon

7 rue Chevreul, Paris (XIe)

See what
HOUBIGANT
 is doing to increase your sales of
 PERFUME and TOILET PREPARATIONS



QUELQUES FLEURS

THE PERFUME TRIUMPH of HOUBIGANT

Always in Fashion

WRITE OR PHONE FOR PRICE LIST.

Take advantage of the demand for
GENUINE FRENCH PERFUMERY

Made in Paris

**GUARANTEED FREE FROM ADULTERATION
 AND SUBSTITUTION**

TELEPHONE: SHEPHERD'S BUSH 2343

— LARDEN ROAD **PARFUMERIES DE PARIS LIMITED** ACTON - LONDON —

TOOGOOD'S SOAPLESS SHAMPOO Powders



In Envelopes

Boxes of 3 dozen, 22/- per gross



In Compressed Tablets
Show Boxes of 1 dozen
22/- per dozen Boxes

Manufactured by
WILLIAM TOOGOOD LTD.
77 SOUTHWARK ST., LONDON, S.E.1

"VAREEN" LIQUID NAIL POLISH



NAIL POLISH

1/- size	..	7/6 doz.
1/6 "	..	10/6 "
2/6 "	..	16/- "

POLISH REMOVER

1/- size	..	7/6 doz.
1/6 "	..	10/6 "

CUTICLE CREAM

1/- size	..	7/6 doz.
1/6 "	..	10/6 "

Favourite Colours :

Natural, Rose, Pale Coral, Coral Pink, Deep Rose, White, Brilliant Rose, etc.

(FROM YOUR WHOLESALE)

VAREEN LTD.

86 PORTOBELLO ROAD, LONDON, W.11

Telephone No. : PARK 9951

9/-100 **Wanie** **8/-GROSS**

Wanie **AUTO TYPE** **Wanie**

9/-100 **Registered**

WANIE

The Blade for Every Razor!

Send for Samples to Dept. C D.

LONDON & PROVINCIAL

FACTORS, LTD.

146 THEOBALDS ROAD, W.C.1

and at

16 WITHY GROVE, MANCHESTER

Enquiries from Irish Free State invited

Wholesalers are invited to apply for Trade Terms

British
Blades

TIM

THE FAMOUS
TIM
REGD
RAZOR BLADE

4'6
GROSS

HAND-

MADE IN ENGLAND

HONED



A Robel
PRODUCT

Buty-Tone

*Supreme
Aids to
Loveliness*

2 1/4

EACH

Robel

LIMITED

EAGLE HOUSE • JERMYN STREET • LONDON • S.W. 1
PHONE • WHITEHALL 8633 • GRAMS • ROBEL PICCY LONDON



HEADS YOU WIN . . by pushing ANZORA

Once a man has used Anzora he'll never use another hair cream. You've won his custom because he is satisfied with what you've sold him. And twenty-five years of advertising has placed Anzora far ahead of any competition. For there is an Anzora line to suit every head—dry, greasy or "glossy." Get your fair share of the millions of users of Anzora by displaying it prominently. Remember—there is 33 1/3 % profit on every quick sale.

*The only
Gold Medal Hair Cream*

ANZORA WAVE- SETTING LOTION FOR LADIES

A new Anzora line that is going to mean more profit to you. Beautifully perfumed and selling at the popular prices of 6d. and 1/3. Get fully stocked to meet the demand. Trade terms 4/- and 11/- per doz.

ANZORA

MASTERS THE HAIR

ANZORA PERFUMERY CO., LTD., LONDON, N.W.6

TRADE TERMS:

Cream and Viola
8/- doz. Retail at 12/-
12/- " " " 18/-
20/- " " " 30/-
Brilliantine 8/- doz.
Retail at 12/-

*Announcing
the*

"DAWN" FACE CLOTH

Jacquesil Fabrics Ltd. have pleasure in announcing to the trade that "Dawn" Face Cloths are now being manufactured at the company's works,

Redbank Mills, Radcliffe, Lancs.

All enquiries should be addressed to the Company at
105/107 Princess Street, Manchester
or to London Agent,

Mr. G. H. BOLTON

28 Falcon Square, Aldersgate Street, E.C.1

More detailed announcements will regularly appear
in this Journal.

WHOLESALE AND EXPORT ONLY

Jacquesil Fabrics Ltd.

ECLIPSE
for
3 SUPER RAZOR BLADES

RAZOR PRICES
7/6 & 5/-

MAGNETIC PICK-UP
FOR BLADES

THE BEST IN
THE WORLD

Sole
Manufacturers

JAMES NEILL & CO. (SHEFFIELD) LTD.

The
PERFECT PAIR
for economical and
luxurious shaving

"Eclipse"
RED RING
RAZOR
& SUPER RAZOR BLADES

"Eclipse"
MAGNETIC
PICK-UP

E 100

"ELEGAN"
**Coats
and
Overalls**

DISTINCTIVE
IN STYLE AND
QUALITY

May we send you post free:
ILLUSTRATIONS OF
ALL STYLES
MEASUREMENT FORMS
PRICE LISTS
SHADE CARDS
ETC., ETC.?

NAGELES
Manufacturers
8, 10, & 12 EDWARD ST.,
WARDOUR ST.,
LONDON, W.1

Style 266

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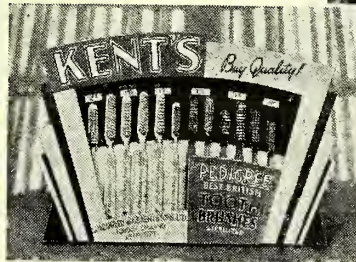
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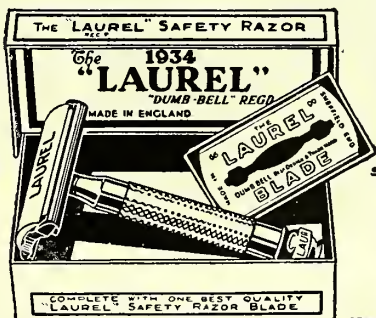
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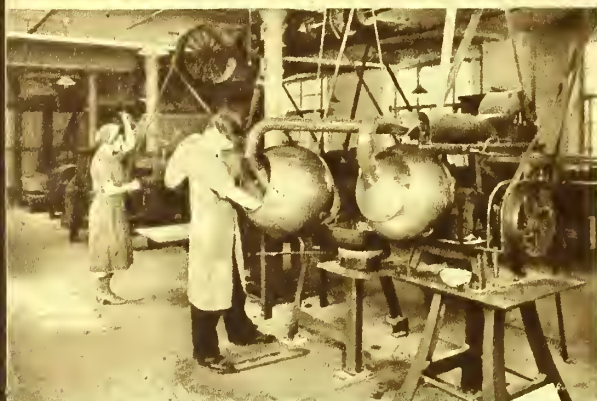
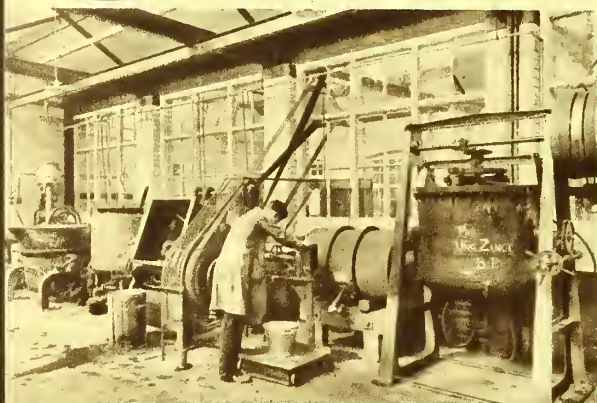
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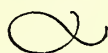
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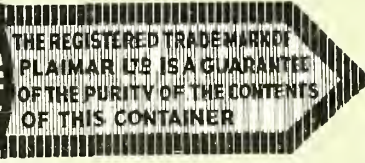
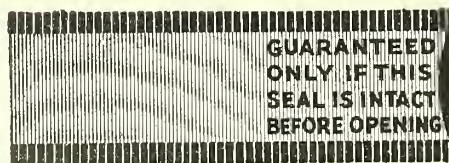
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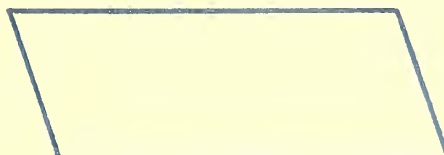
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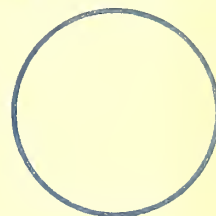
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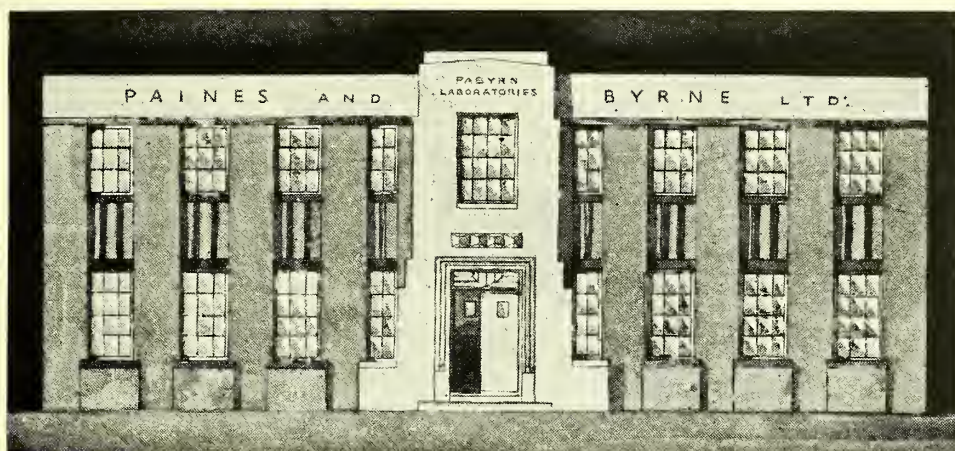
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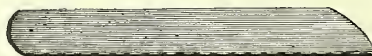
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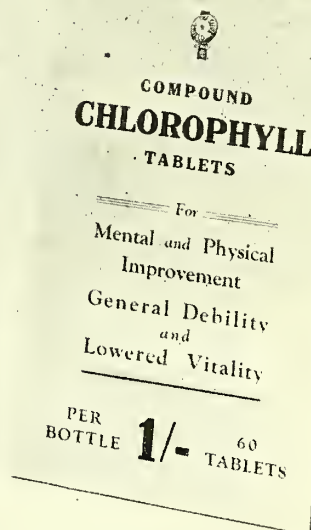
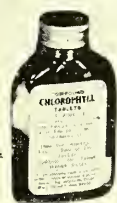
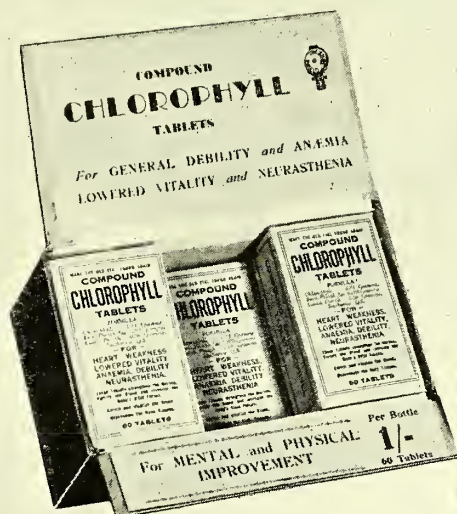
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conducting personally his own business has a definite status and position in *your* town. He can give you **PERSONAL SERVICE**, combined with highest quality merchandise at reasonable prices.

Your Prescriptions will be dispensed accurately with the freshest and purest of medicines; the latest pharmaceutical productions or toilet aids are at your disposal; in fact, the individual chemist can supply all your requirements in chemists' merchandise at popular prices.

SHOP AT THE

Rexall PHARMACY

JOHN SMITH
High St., Midchester

Stereos of the
above advertisement
available, and necessary
alterations made locally
on application to:

**UNITED DRUG
COMPANY LIMITED
NOTTINGHAM**

ENQUIRIES
from districts not
covered by a Rexall
Agency will receive
every attention

NEW PRODUCTS

now being advertised to
the Medical Profession

			Wholesale	Retail per dozen
BIOMUCINE	-	- Box of 24 Cachets	7/6	68/-
ENTEROMUCINE	-	- Tins of 100 gms. -	7/-	63/-
GYNOESTRYL	-	- Ampoules, Box of 6	6/6	58/-
		- Solution, 10 c.c. -	6/-	54/-
		- Tablets, Box of 40 -	6/-	54/-
ORKITONE	-	- Bottle of 8 ozs. -	7/6	68/-
VAGOTONINE	-	- Box of 5 Ampoules -	12/6	120/-

Your co-operation in promptly obtaining
supplies when required will be appreciated.
Telephone : Holb. 6011. Telegrams : Ampsalvas, London

THE ANGLO-FRENCH DRUG CO., LTD.
11-12 Guilford Street, London, W.C.1

PETROLEUM JELLIES

WHITE, LEMON, YELLOW, AMBER, RED, GREEN.

WHITE & COLOURED OILS

YELLOW, GREEN, RED FOR BRILLIANTINE, etc.

LIQUID PARAFFIN

COLOURLESS, TASTELESS, ODOURLESS.
ALL SPECIFIC GRAVITIES.

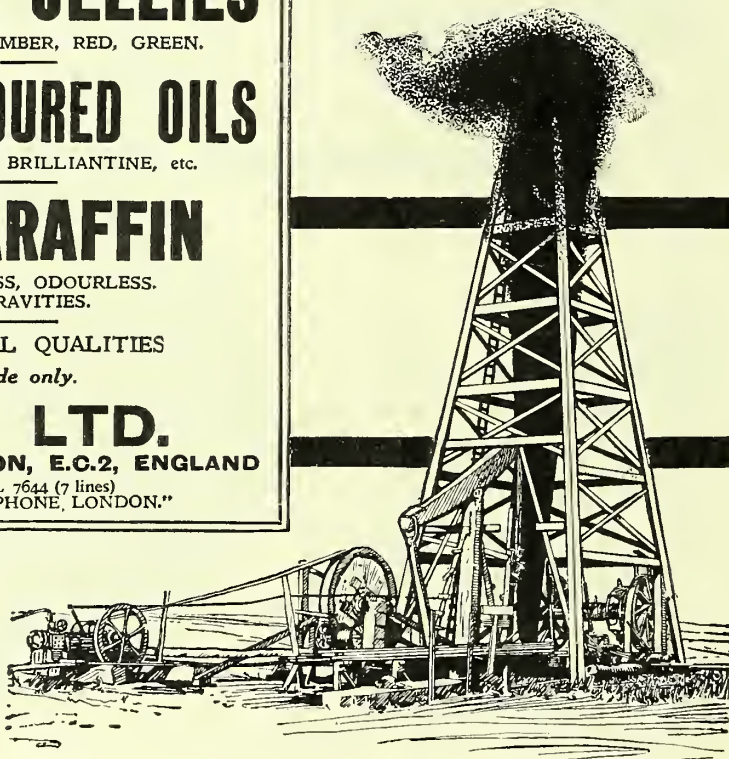
B.P. AND TECHNICAL QUALITIES

Wholesale Trade only.

STERNS LTD.

16 FINSBURY SQ., LONDON, E.C.2, ENGLAND

Telephone : NATIONAL 7644 (7 lines)
Telegrams : "CENTUMVIR" PHONE, LONDON."



Kemball, Bishop & CO. LIMITED

CROWN CHEMICAL WORKS, THREE MILL LANE,
BROMLEY-BY-BOW, LONDON, E.3

Telephone:
ADVance 1234
(5 lines)

Codes: A. B. C. 6th
Bentley's & Private

Telegrams:
Kemball, London

Manufacturers of

**CITRIC ACID
TARTARIC ACID
CREAM OF TARTAR
ROCHELLE SALTS
LITHIUM CARBONATE
& HYDROXIDE
Quality Guaranteed**

*Established
1870*

CC*

ACETYLARSAN

ACRIFLAVINE

ADRENALINE

ALBAROL

AMETOX

APLEXIL

ARTHRYTIN

ASCIATINE

BISANTOL

BISGLUCOL

BISTOVOL

CRISALBINE

DIAGNOTHORINE

DMELCOS

EPHEDRINE

EUFLAVINE

GARDENAL

GARDENAL SODIUM

GONACRINE

MERFENIL

METARSENOBILLON

MYOCRISIN

NEO-CARDYL

NEO-HYDRIOL

NEPTAL

NOVARSENOBILLON

OPACIN

OPACOL

PLANADALIN

PLANOCAINE

PLANOCHROME

PROPIDEX

RUBYL

RUTONAL

SCUROFORM

SONERYL

SONERYL SODIUM

STOVAINE

STOVARSOL

THEOGARDENAL

TRYPARSAMIDE

URAZINE

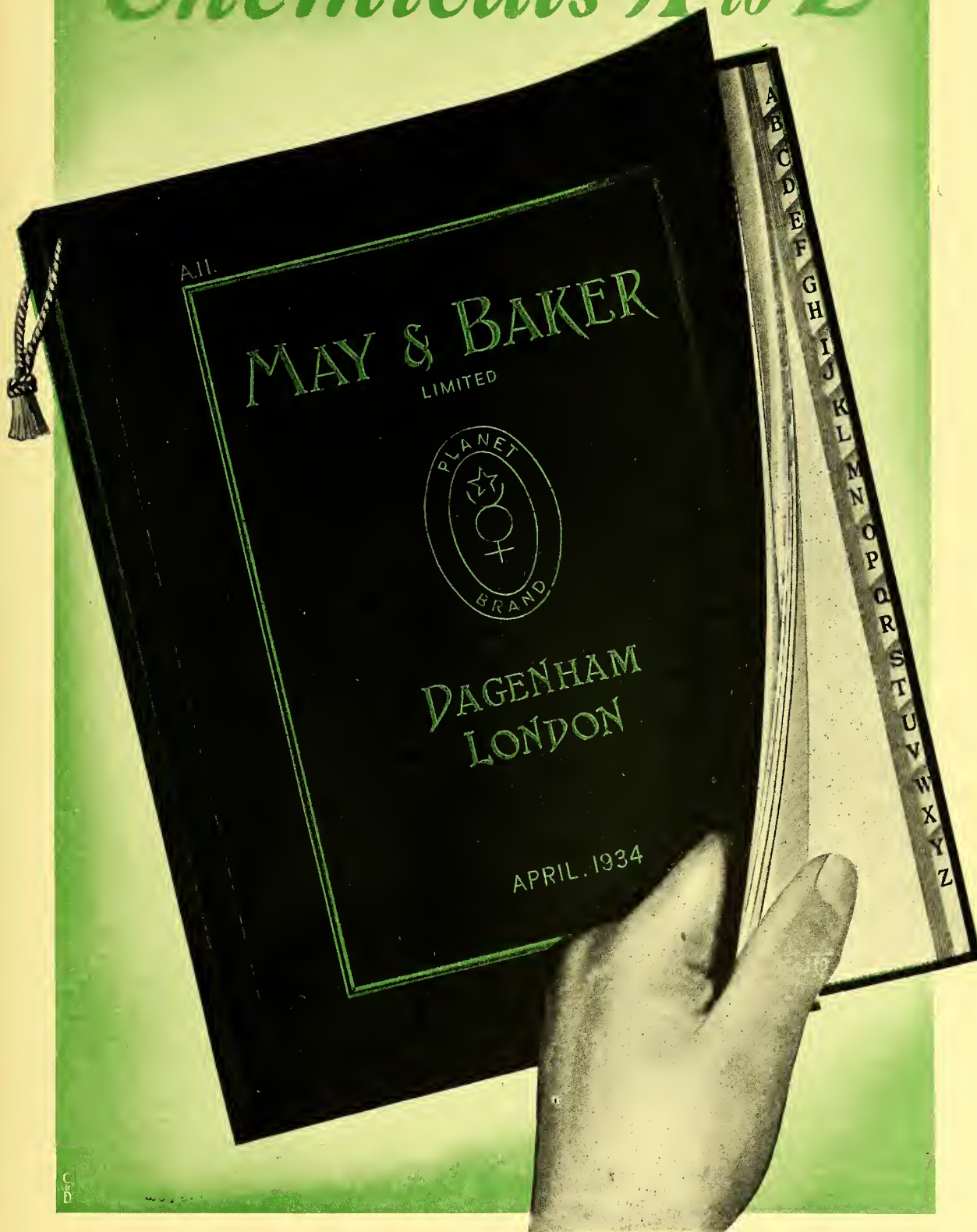
VARICANE SODIUM

MORRHUATE

ZEPHROL

MAY & BAKER LTD.**DAGENHAM, LONDON**

Chemicals A to Z





LONG EXPOSURE TO THE SUN, OVER-EXERTION
IN GAMES, TRAVELLING IN STUFFY TRAINS CAUSE

Summertime Headaches & keep Cephos Stockists busy

In all the leading newspapers and popular magazines Cephos advertisements hold the readers' attention. Display some of these attractive showcards and cutouts in your windows and on your counters, and you will make many new customers. You will find the gold, black and white colour scheme of Cephos display material dignified and arresting without being obtrusive.

IN POWDERS
OR TABLETS

Retail Price
1/3 & 3/-

Single Powders
2d. each

Cephos
See-foss REGD
Pronounced THE
PHYSICIAN'S
REMEDY

FOR
HEADACHE
NEURALGIA
SUMMER CHILLS
RHEUMATISM
LUMBAGO

Cephos Ltd., Blackburn

Pure Live Yeast

now acknowledged to be a specific for the improvement of the blood condition, and for general health.



Supplies may be obtained through Wholesalers, The United Yeast Co. Ltd.,
London—Bristol—Birmingham—Manchester—Leeds—Newcastle, or from

CALDER'S YEAST CO. LTD.

INVERKIP STREET
GLASGOW, C.5

**HOSPITALS USE IT
DOCTORS PRESCRIBE IT**



But these are only two of the reasons why you should stock

YESTAMIN

Overwhelming support from medical profession, Hospitals and laboratories is rapidly bringing YESTAMIN to the front as a splendid special nutriment in a wide variety of diseases.

Yestamin is Yeast in its most concentrated form. It is richest in B.1 and B.2 Vitamins and contains all the beneficial enzymes of Yeast. It is the most palatable and convenient form of taking Yeast.

We consistently tell the public this in our advertising which is aimed to send the public to the Chemist. Are you preparing to meet the demand this publicity is creating?

Here are our trade terms:

YESTAMIN POWDER
In tins of 16 ozs. @ 42/- per doz.
In tins of 8 ozs. @ 24/- per doz.
In tins of 4 ozs. @ 15/- per doz.

YESTAMIN TABLETS
In tins of 250 tabs. @ 24/- per doz.
In tins of 100 tabs. @ 12/- per doz.
In tins of 50 tabs. @ 6/- per doz.



NOTE THE HANDY PACKINGS

Retail orders value 30/- bear 25% discount. Over this discount is 33½% : Retail orders value £4 and over, packed 13 to dozen.

As an added attraction we offer Bonus Parcels allowing you profits of 66½% and 62½% on outlay.

Why not get in touch with us to-day?

THE ENGLISH GRAINS Co. LTD.
SHOBNALL ROAD, BURTON-ON-TRENT

**A PROFIT OF
50%**

ON

Iglodine.

an all British, safe antiseptic and pure drug—Tri-Iodo-Ethyl-Phenyl—which is an important factor in commercial welfare. In the performance of their various missions Iglodine preparations are particularly effective

The merits of Iglodine preparations are now fully established. There is a steady all-the-year-round demand for them from Industrial concerns, Workshops and Homes.

They are, therefore, worth-while lines to stock, and are worthy of display and recommendation. Furthermore, our terms show you A PROFIT OF 50 PER CENT.

**"IGLODINE"
Specialities**
(On the P.A.T.A.)

ANTISEPTIC
EMBROCATION
TOILET SOAP
OINTMENT
PASTILLES
THROAT TABLETS
CREAM
SHAVING STICK
NASAL DOUCHE
SUPPOSITORIES
SALICYLATED and
FIRST AID OUTFITS

Showcards and advertising literature gladly sent on application. Write us to-day for details of Special Window Display offer.

The Iglodine Co.
LIMITED
PILGRIM STREET
NEWCASTLE-ON-TYNE

Phone : 22744
Newcastle-on-Tyne.

Telegrams :
"IGLODINE," Newcastle-on-Tyne.

Introducing

SUNAX PASTILLES

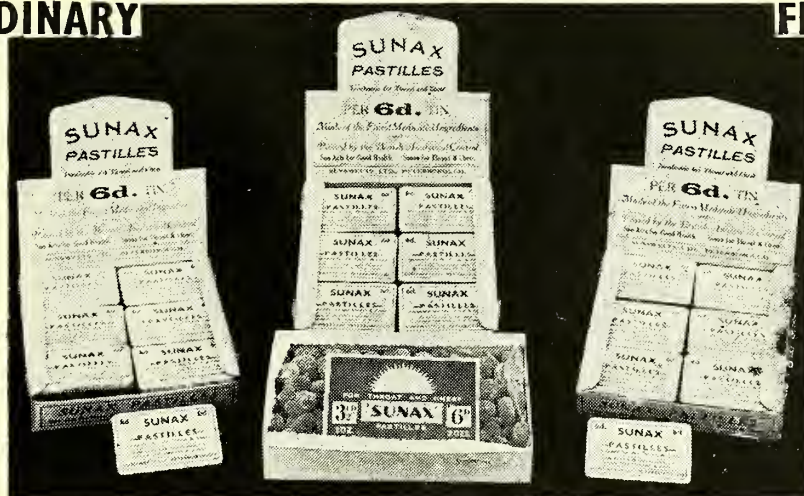
A
SUNSWEETS' PRODUCT

REGD.

EXTRAORDINARY

FREE OFFER

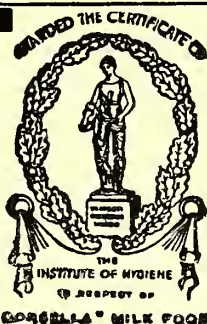
With every 3x1 doz. 6d. tins Sunax Pastilles we are giving free a 1 lb. box, for tasting or selling purposes, as per illustration.



Sunax Pastilles for Throat and Chest are sold in 2 oz. tins 6d. or loose at 3½d. per oz.

Send P.C. today

SUNSWEETS LIMITED
PETERBOROUGH



ENGLISH DRIED MILK

Enquiries are solicited for the following:—

Full Cream "Dorsella" Dried Milk
Half Cream
Separated "Paragon"
Casumen, Soluble Milk Proteid
Sweet Whey, Crystals or Powder
Kencream for Puppies
Unita (Dorsella and Casumen)
Dried Buttermilk
SUPPLIED IN BULK, TINS OR CARTONS

Quotations and samples on request

PRIDEAUX'S, LTD.
MOTCOMBE, SHAFTESBURY, DORSET

'Phone No.: Shaftesbury 4

DIABETIC, OBESITY AND KETOGENIC DIETS

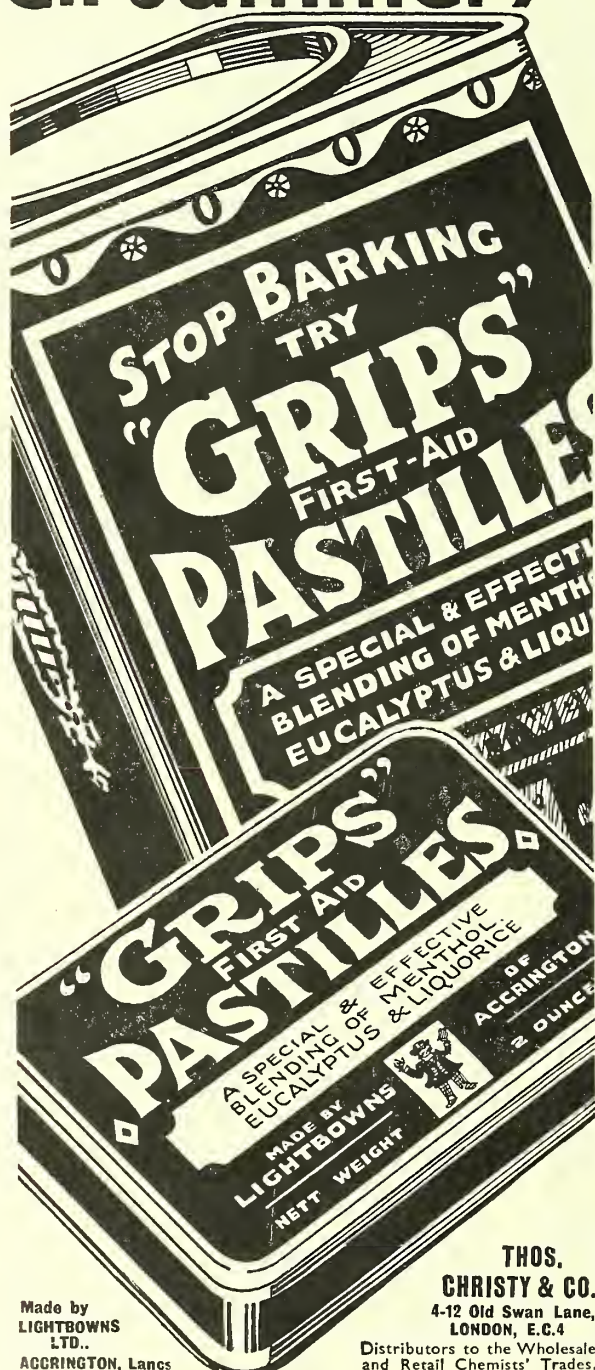
A large variety of foods which are prescribed by the medical profession everywhere are manufactured by

CALLARD & COMPANY
FOOD SPECIALISTS

STANDEN ROAD, SOUTHFIELDS,
LONDON, S.W.18

West End Depot:
74 REGENT STREET, W.1

Link last winter
with next by
showing 'Grips'
all summer!



Made by
LIGHTBOWNS
LTD..
ACCRINGTON, Lancs

THOS.
CHRISTY & CO.
4-12 Old Swan Lane,
LONDON, E.C.4

Distributors to the Wholesale
and Retail Chemists' Trades.

NEOKLENZ NATURE CURE

Ready to take in its natural state.

Cures Constipation and Rheumatism.
Cleanses the Liver and Kidneys.

9d. size 5/- per Doz.
1 Gross Free Samples with 3 Dozen.

Dr. NORMAN'S ASTHMA CIGARETTES

9d. size 6/- per Doz.
Smartly packed and Showcards.

ATLAS KATTLEKURE

The Wonder Ointment.

1/6 size 12/- per Doz.
2/6 " 20/- " "
5/- " 40/- " "

Your enquiries are invited and appreciated.

Sole Proprietors:
CARTER BROS., SHIPLEY, YORKS.



Wholesale Prices

1/3 Size
11/6 per dozen net
3/- Size
27/6 per dozen net

Carriage Paid Gross Quantities
or equivalent.

Manufactured only by

J. F. WHITE & CO., Chemists
BENSON STREET, LEEDS.

VISCOSITY

While Specific Gravity is useful as a
means of grading Liquid Paraffin, Viscosity
is the true test of quality.

As specialists in this material we can
offer an Oil with a Viscosity of
290/300 seconds at 100° F.

"QUALITY COUNTS"

C.E. THURLEY & SON
UNITY WORKS

PHONE: MARYLAND 4686

LATIMER ROAD E.7



Products of — BENGER'S FOOD Ltd.

BENGER'S FOOD for INFANTS, INVALIDS and the AGED.

Has been used for over forty years with great success.

The "Lancet" describes it as "Mr. Benger's admirable preparation."

LIQUOR PEPTICUS (Benger).

An exceedingly active fluid pepsine. Dose, one or two teaspoonfuls with meals. In 4, 8 and 16 oz. bottles.

BENGER'S PEPTONISING POWDERS.

Half a powder will peptonise a pint of milk, gruel, beef tea, etc., in a few minutes. In boxes of 6 and 12 powders.

BENGER'S PEPTONISED BEEF AND CHICKEN JELLIES.

Nutritive delicacies for Invalids. In glass jars.

LIQUOR PANCREATICUS (Benger).

Containing all the active principles of the fresh pancreas. Used to prepare peptonised or partially digested milk and other articles of food.

'EXTOMAK' (Trade Mark).

An active and natural desiccated stomach product, preferable in all respects to Liver Extracts. Supplied in tins of two sizes No. 1 and No. 2.

BENGER'S PANCREATISED LENTIL FLOUR.

Can be used in the same way as Benger's Food, for which it may be substituted when a change of diet is desirable.

BENGER'S ESSENCE OF RENNET (Curdling Fluid).

The highest quality sweet essence, which can be safely used for obtaining whey for professional use in Infant and Invalid Feeding. Makes excellent Junket. In bottles of various sizes.

PEPSIN PILLS (Benger).

Represent the active principle of the Liquor Pepticus in the form of tasteless coated pills in convenient and effectual form. In bottles of various sizes.

PANCREATIN PILLS (Benger).

Contain the purified digestive principles of the fresh Pancreas, and are coated with Keratin to protect them from the solvent action of the gastric juice, until they reach the duodenum, where they will rapidly dissolve. In bottles.

EXTRACT OF RED MARROW.

An agent capable of affording valuable aid in the treatment of Anæmia, and also of Oligæmia due to loss of blood.

LIQUOR THYROIDIN.

A glycerine and water extract of selected fresh Thyroid glands obtained from healthy sheep.

NEW PRODUCT

BENGER'S FOOD BISCUITS. Contain a suitable quantity of Benger's Food as prepared with fresh milk, and provide a sustaining food-stuff having distinctive digestive properties.

In tins at 1/9 each.

Of all Wholesale Houses and Shippers, or from the Manufacturers,

BENGER'S FOOD LTD., Otter Works, MANCHESTER

NEW YORK, U.S.A. 41 Maiden Lane. SYDNEY, N.S.W. 350 George Street.

CAPE TOWN, S.A. P.O. Box 732



MARTINDALE

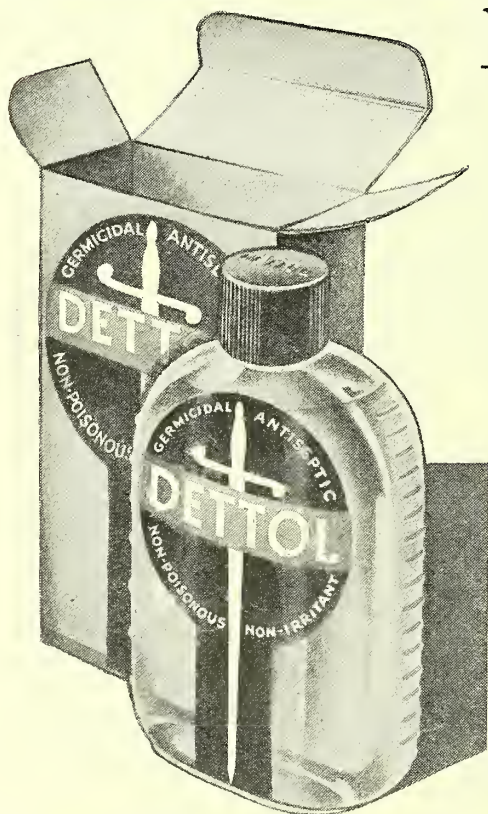
List of MEDICAL PRODUCTS.

**We are now circularising all Doctors and Hospitals
with this new List.**

Please co-operate with us.

Martindale Products are continuously advertised in the Medical Journals.

12, New Cavendish Street.



No doubt about 'DETTOL'

Safe to use . . . safe to recommend

*Efficient, yet non-irritant. Ensuring
high germicidal action without risk of toxic effect.*

No one knows better than you that a germicide sold for unsupervised use by a customer must involve no risk of toxic or irritant effect.

In a halogen derivative of Xylenol a safe germicide has now been found—and given the brand name 'Dettol.' It is a clean, clear fluid, pleasantly deodorant, agreeable to use. It is non-poisonous and non-irritant: does not stain linen or the skin. Germicidally it is three times more effective than undiluted phenol. Skin treated with 'Dettol' remains for at least two hours immune from re-infection.

'Dettol'—most attractive in appearance and packing—sells at 4 ozs. for 1/-, 16 ozs. for 3/-, and in larger sizes for medical and hospital use.

'DETTOL'

TRADE MARK

THE NEW SAFE GERMICIDE

non-toxic, non-irritant

Established 1751

WILLOWS, FRANCIS, BUTLER & THOMPSON
LIMITED

Wholesale & Export Druggists

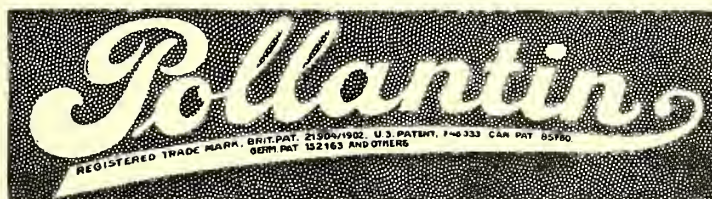
Manufacturers of Pharmaceutical Preparations

AN AMALGAMATION OF
 WILLOWS, FRANCIS & BUTLER,
 HERRINGS & CO.,
 HENRY AYSCOUGH THOMPSON & SON,
 MACKEY, MACKEY & CO.,
 CORBYN STACEY & CO., LTD.,
 MANNERS & HOPKINSON

WILLOWS' GALENICALS

*Made from Chemically & Physiologically
 Tested Drugs.*

SOLE AGENTS FOR



AN EFFECTIVE TREATMENT FOR HAY FEVER.

73, 75 & 89A SHACKLEWELL LANE,

Telegrams :
 "Forty, Kinland,
 London."

DALSTON, LONDON, E.8

Telephone :
 Clissold 6361
 (4 lines)

PHARMACEUTICAL PRODUCTS

AND

SURGICAL SUNDRIES

BULK or PACKED

PRICE LISTS, SAMPLES, and DESIGNS
SENT UPON REQUEST

We manufacture and pack
ready for sale Customers own
private recipes.

Confidence and reliability to
formulae guaranteed.

Attractive packs which induce
sales.

BAISS BROTHERS & CO., LTD.

174-176 GRANGE ROAD, BERMONDSEY, S.E.1

Telephone :
BERmondsey 1301 (3 lines).

Telegrams :
"Ipecac" London.

Proprietors of:

"Three Bees Brand" and "Grange
Brand" of packed goods.

"Gold Medal" Cream Emulsion of
Cod Liver Oil.

Hopkinsons Liq. Colchici Salicylate.

"Krysol" (Lysol Baiss).

"Krysyl" and "Pinesyl" Disinfecting
Fluids. Etc., etc.

ARNFIELD'S

Raspberry Vinegar

manufactured from Pure Fruit
Juice, is the best foundation
for cough mixtures. It is abso-
lutely pure and contains no
preservatives or artificial
flavouring agents.

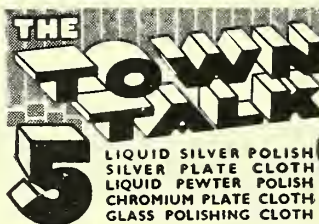
Send for sample and quotation
stating quantity required.

J. C. Arnfield & Sons, Ltd.

Manufacturing Chemists
Wholesale and Export Druggists

Stockport

ESTABLISHED
1786



Five lines that the housewife
regularly buys because of
their unequalled excellence

Ten million people every month
buy the newspapers
and women's journals con-
taining "Town Talk"
Advertisements which tell
readers the superlative
qualities of "Town Talk," also that
it is sold by Chemists.
*That is why stockists do not
have to sell "Town Talk"—
they are asked for it.*
Order the "Town Talk" 5 quick-
selling repeat-order lines. They
give a generous profit.
Additional "TOWN TALK" Sales
Helps supplied free on request. Show-
cards, Window Displays, Samples,
Leaflets, Cinema Slides, Blocks for own
advertising.

TOWN TALK POLISH Co.,
MANCHESTER



You do not
have to sell
'TOWN TALK.'
Women BUY
it.

ORDER DIRECT
OR FROM:

James Woolley Sons &
Co., Ltd., Manchester
Ayrton, Saunders & Co.,
Ltd., Liverpool
Brooks & Warburton,
Ltd.
Goodall, Backhouse & Co.,
Leeds
May, Roberts & Co.,
Ltd., London

BURROUGH'S

TRY THE EXTRA RECTIFIED
FOR YOUR PERFUMERY

SVR

[FOR YOUR TINCTURES

ABSOLUTE ALCOHOL

DUTY PAID
and
DUTY FREE
for
EXPORT
and
SCIENTIFIC
PURPOSES.

"BEEFEATER" GIN—Purest and Best.

"WHITE CROSS" WHISKY, BRANDY
and RUM

"Quinta Real" Elegant Old Tawny Port.

Burrough's Invalid Port.
Ports for Medicating Purposes.
"Donzardo" Sherry — Delicate
Pale Dry.
Spanish Sherry for Ipecac. Wine.
Lime Juice Cordial.
British Sherry.

"Bourg Frères" Champagne, in
Botts., $\frac{1}{2}$ -Botts., and $\frac{1}{4}$ -Botts.

Orange Wine.

Orange Quinine.

"Bell Bird" Australian Wines.

Lemon, Orange and Grape Squashes.

British Ruby and Tawny—Port Style.

Write for Samples and Quotations stating if you hold a Wine Licence.

JAS. BURROUGH Ltd.

59 Cale Distillery,
Lambeth, S.E.11

Telegrams : "Burrocale, Phone, London."

Estab. at Chelsea 1820.

Telephone : Reliance 1166

COMPRESSED TABLETS

COATED or UNCOATED

STANDARD or
PRIVATE FORMULÆ

WHOLESALE BUYERS
WRITE

T. H. WALTON & Co. Ltd.
BATLEY

TABLETS (PACKED OR IN BULK)

Specialists for 30 years in all kinds of Medicinal Tablets
Purity of Drugs and Accuracy Guaranteed

SPECIAL LINES:

HYDROGEN PEROXIDE (In Tablets 33% H_2O_2)	CONTRACEPTIVE TABLETS INDIGESTION TABLETS AND LOZENGES
MOUTH WASH TABLETS	RHEUMATISM TABLETS
REJUVENATIVE TABLETS	LUMBAGO TABLETS
PILE CURE TABLETS	SKIN ERUPTIONS & BOILS
BRAIN & NERVE TABLETS	(Stan.; Oxid. Co. Tablets)

ALL PUT UP AS YOUR PROPRIETARY IF REQUIRED

Superior Products, Prices Right, Send for List

BUCKLEY'S IMPROVED "PREMIER" TABLET MACHINE
(SOLE MANUFACTURERS)

£14.14.0

Full Instructions for Preparing Powders and Making Tablets
with each Machine

BUCKLEY-BOWKER TABLET Co. Ltd.
29 PARKFIELD ST., LONDON, N.1
Phone: CLERKENWELL 1401

ASPIRIN TABLETS

ATTRACTIVE RANGE OF CARTONS
WITH OWN NAME AND ADDRESS

Bottles of 25 - - - 2/3 doz.
" " 50 - - - 3/9 "
" " 100 - - - 6/- "

BULK

100,000 tablets 2/2 per 1,000
10,000 " 2/6 " "
5,000 " 2/9 " "

All Orders Carriage Paid. Free Containers.

Each tablet contains 5 grs. pure Acetylsalicylic Acid.

GOLD SEAL PROPRIETARIES LTD.
CROYDON

Managing Director: D. S. MITCHELL, M.P.S.

EXPERIENCE CANNOT BE BOUGHT!!

By purchasing your

PILLS, TABLETS and CAPSULES

from

Experienced Manufacturers

You are benefiting by

All that experience teaches!

UP-TO-DATE MACHINERY. PROMPT DESPATCH.
ANY QUANTITIES.

HOWARD LLOYD & Co. Ltd.
LEICESTER.

JUST RELEASED 'ASPRO' SUMMER DISPLAY

Bright and Artistic

ORDER NOW

The new Summer window show for 'ASPRO' is just released — just in time to get you all the benefits of an 'ASPRO' show during the holiday months. Send a postcard to-day and we will send you this attractive full-colour sales-promoting show by return of post. It will add distinction

and freshness to your window and prove a real sales getter. Attractive windows stir up business, so why not change your window and feature the new 'ASPRO' summer display. Here's an illustration of it.



ARE YOU INCREASING YOUR SALES
BY USING 'ASPRO' CHEMISTS'
ENVELOPES AND BAGS?
IF NOT — SEND FOR A SUPPLY
TO-DAY



Kristal Envelopes	-	-	2/6 per 1,000	} Cash with Order
Greaseproof 2oz. Bags	-	-	1/- per 1,000	
Greaseproof 2oz. Bags (long)	-	-	1/6 per 1,000	

Agents:

GOLLIN & CO. PTY. LTD.
(‘Aspro’ Dept.), SLOUGH, Bucks.

Telephone: SLOUGH 608

‘ASPRO’ consists of the purest Acetylsalicylic Acid that has ever been known to Medical Science, and its claims are based on its superiority.

Made by ASPRO LTD., Slough, ENGLAND

No proprietary right is claimed in the method of manufacture or the formula.

ASPRO
REG. TRADE MARK

Telephone:
HOP 6610/1

MANUFACTURING CHEMISTS

Telegrams:
"Pilleolum,
Sedist, London."

MATTHEWS & WILSON (1931) LTD.

Established 1894

TABLETS
PLAIN AND SUGAR COATED

PILLS

LOZENGES

DRUGS

BULK OR PACKED

Distributors
of
LECTONA
TONIC
FOOD

Manufacturers
of
OXYDOIN
OINTMENT

6 and 8 COLE STREET, LONDON, S.E. 1

Tablets and Pills *Packed or Bulk*

ASPIRIN
CASCARA

and all

TABLETS and PILLS

*Latest Automatic Pill Plant
producing over 300,000
3-grain pills a day.*

*Private formulae Pills and
Tablets carefully and ac-
curately prepared at lowest
possible prices.*

Enquiries from Packers, Shippers & Trade
CASTLE HUSKISSON Ltd.

MANUFACTURING CHEMISTS

Swinton Works, Moon St., Islington

ESTABLISHED 1768

AGENTS FOR MÖVA PRODUCTS LTD.

Specialists in

PILLS AND TABLETS IN BULK

Special Formulae problems a feature

Wholesale only

Special Terms to Packers and Proprietors of Branded Lines.

THE TOWER PILL & TABLET CO., LTD.

46 Penton Street, London, N.1

Telephone:
TERMINUS 6562

to increase your **DAILY PROFITS**



display

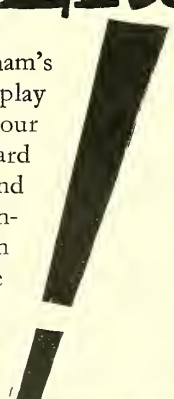
**Beecham's
PILLS**

**Beecham's
POWDERS**

**Order
Now!**

You will increase your daily profits by keeping Beecham's Pills and Beecham's Powders before the public. Display them on your counter—in your window—about your shop. Our advertising creates the demand and we regard everyone as a potential customer. Every modern and progressive chemist realizes that under existing conditions it is essential that his business premises function busily for 300 days of the year, and, consequently he must stock and push goods that sell on each of those 300 days—in other words he must concentrate on the

DAILY SELLERS



BEECHAMS PILLS, LTD.
ST. HELENS, LANCASHIRE.

*Lightest, Medium, Dense, for Tooth Pastes and
Tooth Powder; and other Grades for every
purpose*

PRECIPITATED CHALK

Also *Finest Powdered Talc* and other Chalks

A. LEVERMORE & CO. LTD.
110 Cannon Street, London, E.C.4

Estab. 1868. Telephone: MANSTON HOUSE 7300.

Telegrams: LEVERMORE, PHONE, LONDON.

Code: "ABC 6th Edition."

• APOLLO •

PURE LIQUORICE JUICE



MACANDREWS & FORBES, LTD., BUSH HOUSE, LONDON, W.C.2
Telephone: TEMPLE BAR 5392/3 ESTABLISHED 1857 Telegrams: MACFORBES, BUSH, LONDON

PATENT PHOSPHATES AND MERCHANDISE LIMITED

PURE RICE STARCH CRYSTALS AND POWDER

RICE CORNFLOUR...

for the manufacture of Custard
and Blanc Mange Powders, Baking
Powders . . Ice Cream Powders,
Chocolate manufacture . . Thick-
ener for Sauces . . Sausage Meal
and Icing Sugar Work.

It is much firmer than Maize Starch
and stands up better for there is
more body in it.

ASK FOR OUR PRICES

6 FENNEL ST., MANCHESTER 4

THE DISCRIMINATING PHARMACIST

always uses

WESSANENS

PRIME

CACAO BUTTER

It is unequalled for the prepara-
tion of suppositories, pessaries,
bougies, emollient ointments, etc.

Being free from adulterants and having
a low melting point it can be relied
on for all pharmaceutical purposes.

KEENLY COMPETITIVE IN PRICE

Your usual wholesaler can supply or
you can get direct quotations from

A. PRESCOTT
12 BROOM LANE, BROUGHTON PARK
MANCHESTER 7

WE ARE PRODUCERS AND REFINERS OF THE LARGEST RANGE
OF

STANDARDISED VETERINARY COD LIVER OILS

A GRADE FOR EVERY PURPOSE

SPECIFICATIONS
AND
VITAMIN
POTENCY
GUARANTEED
—
SEND FOR
COPY OF
OUR UNIQUE
GUARANTEE

C. T. BOWRING & CO. LTD.

20 CASTLE STREET,
LIVERPOOL

TELEPHONE:
BANK 1336 (4 lines).

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**WHOLESALE
PLEASE NOTE**

Attractive sole agency terms can be secured in many districts for Hobson's Black Beer (non-intoxicating), "Danzovin" Tonic Wine, etc. These lines are consistently advertised to the public. There is a good demand. Own name literature supplied.

Write us for agency terms.

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ALL CHEMISTS SHOULD STOCK

ABDINE

THE GOLD MEDAL HEALTH DRINK. Quick Seller. Big Profits. Over 60 years' Reputation. "Abdine" is obtainable from the Wholesale Houses. Attractive Display Material constantly available.

DUNCAN McGLASHAN LTD., ABDINE WORKS, WESTFIELD RD., EDINBURGH

"VITAMIN TESTED YEAST"

Yeast specially prepared for medicinal purposes

GUARANTEED ABSOLUTELY PURE

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Sole selling agents for Great Britain—

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YERBA MATÉ

The merits of this famous health tea from South America are well known. Stimulating, nourishing, it is invaluable for Rheumatism, Dyspepsia, &c. Once introduced it means regular customers all the year round. Why not get your share of this business. We will send you sample dozen elegantly packed for 9/- C.O.D.

BATLEY & Co. Stockport. Telephone: Stockport 3323

FINEST PURE LOFOTEN

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BRÖDR AARSÆTHER A/S
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VETERINARY COD LIVER OIL A SPECIALITY



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SIMPKIN'S HALIBUT LIVER OIL HEXAGONS

The Chemists' "Best Seller"

The great demand for these healthful and delicious confections has made Simpkin's Halibut Hexagons a popular favourite with chemists throughout the country. Simpkin's Halibut Hexagons appeal to the strictly ethical mind of the medical and pharmaceutical professions, due to the fact that CROOKES 1,000 B.P. Unit Halibut Liver Oil is used in their manufacture.

The retail price of 8d. per qtr. lb. is within reach of the vast majority of the public. Attractive 8d. & 1/4 packets are extremely popular. Your profit on this line is exceptionally good, being from 82½% to 60% on cost, according to quantities.

We have a service in practically the whole of Great Britain and Northern Ireland to give delivery at the time of ordering, as well as to collect empties without trouble to you. (Admirable service is given in Holland by G. Lindner & Co., Amsterdam.)

National advertising is used to stimulate the demand for Simpkin's Halibut Hexagons. Reproduced here is a specimen advertisement appearing in national media.



Address enquiries to A. L. SIMPKIN & CO., LTD., The Pioneers of High Class

Glucose with Dextrose Chemists' Confections, Barley Sugar Works, Sheffield 6.

Manufactured under Pharmaceutical Supervision for the Qualified Chemist Exclusively.



ERGOAPIOL
(Smith)

Protective Mark
Patented in U. S. and
Foreign Countries

Ergoapiol (Smith) is identified by the letters "M. H. S." raised in the gelatin on the inside of each capsule—thus



Capsule cut in half thru the seam, showing initials.



Capsule intact, showing no mark objectionable to the physician.

[Ergoapiol (Smith) is to be had only in packages of twenty capsules each—never supplied in bulk or other form.]

MARTIN H. SMITH CO., New York, N. Y., U. S. A.

ARCHANIUM

RECOGNISED BY MANY DOCTORS AS THE

BEST REMEDY for

**RHEUMATOID ARTHRITIS,
OSTEO-ARTHRITIS, LUMBAGO,
SCIATICA, NEURITIS,
RHEUMATISM.**

Liberal Terms.

Write for full particulars to Distributors:

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ESTABLISHED 1793.

The Best and Safest Infants' Medicine of over 130 years' standing.

**ATKINSON & BARKER'S
INFANTS' PRESERVATIVE**

Does not contain any Scheduled Poison.

ROBERT BARKER & SON, LTD., 13 WESLEY STREET, C. on M., MANCHESTER

A clear message to Manufacturers and
Producers of Infants' and Health Foods, etc.

PATENT FOODS

**PREPARED & PACKED
UNDER YOUR OWN
BRAND NAME**

We specialise in the preparation and packing of Foods to "Own Name" formulae. Whether your order is for a few tins or a number of tons you will find quality of the best—Prices Right—and speedy delivery to any part of the world. Let us know your proposition. We guarantee satisfaction.

IN TINS OR TONS

**GEO. KING & CO., LTD.
SYCAMORE ST.
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and at Kingsbury, Middx.
"LACTREX" "WHEATREX" "OATREX" "VITREX"

OWN-NAME SIXPENNY TOILETS

comprising

24

PRODUCTS

The
"BARONET"
SERIES

Buy
**TOILET
PREPARATIONS**
from your
CHEMIST

Baronet Toilets are made under technical supervision and guaranteed harmless, because of their utmost purity.

BARONET
24 VARIETIES

TOILETS

UNIFORM **6^d** PRICE

AYRTON SAUNDERS & CO LTD
LIVERPOOL & DUBLIN

PRODUCTS

SUNBRONZ OIL
SUNBURN LOTION
BAY RUM
BAY RUM & CANTHARIDES
BRILLIANTINE INSEPARABLE
HAIR CREAM
HAIR CREAM with Oil
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VIOLET OIL
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LEMON & ALMOND CREAM
CRYSTAL TONIC BRILLIANTINE
GLYCERINE & ROSEWATER
GLYCERINE & CUCUMBER
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HAIR SETTING LOTION
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LIME CREAM
JASMIN OIL
LAVENDER OIL
COCONUT OIL BRILLIANTINE
ASTRINGENT SKIN LOTION
BAY RUM & QUININE
EMUL. COCONUT OIL SHAMPOO

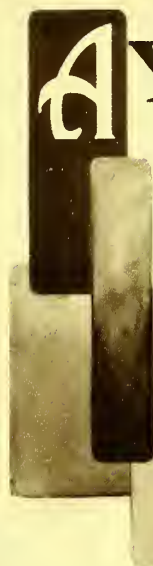
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PRICE LIST

3 dozen -	-	-	@	3/10	Nett.
6 dozen -	-	-	@	3/8	"
12 dozen -	-	-	@	3/6	"

May be assorted for own name

DRUGS
PACKED-
GOODS
TABLETS
SUNDRIES
SUPPLIES



AYERTON'S
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QUALITY
SERVICE

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PRESENTATION

modern and progres-
sive because of their
own self-contained fac-
ulties built up during
66 years and embrac-
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manufacturing Phar-
macy and knowledge
of the Chemist's
needs

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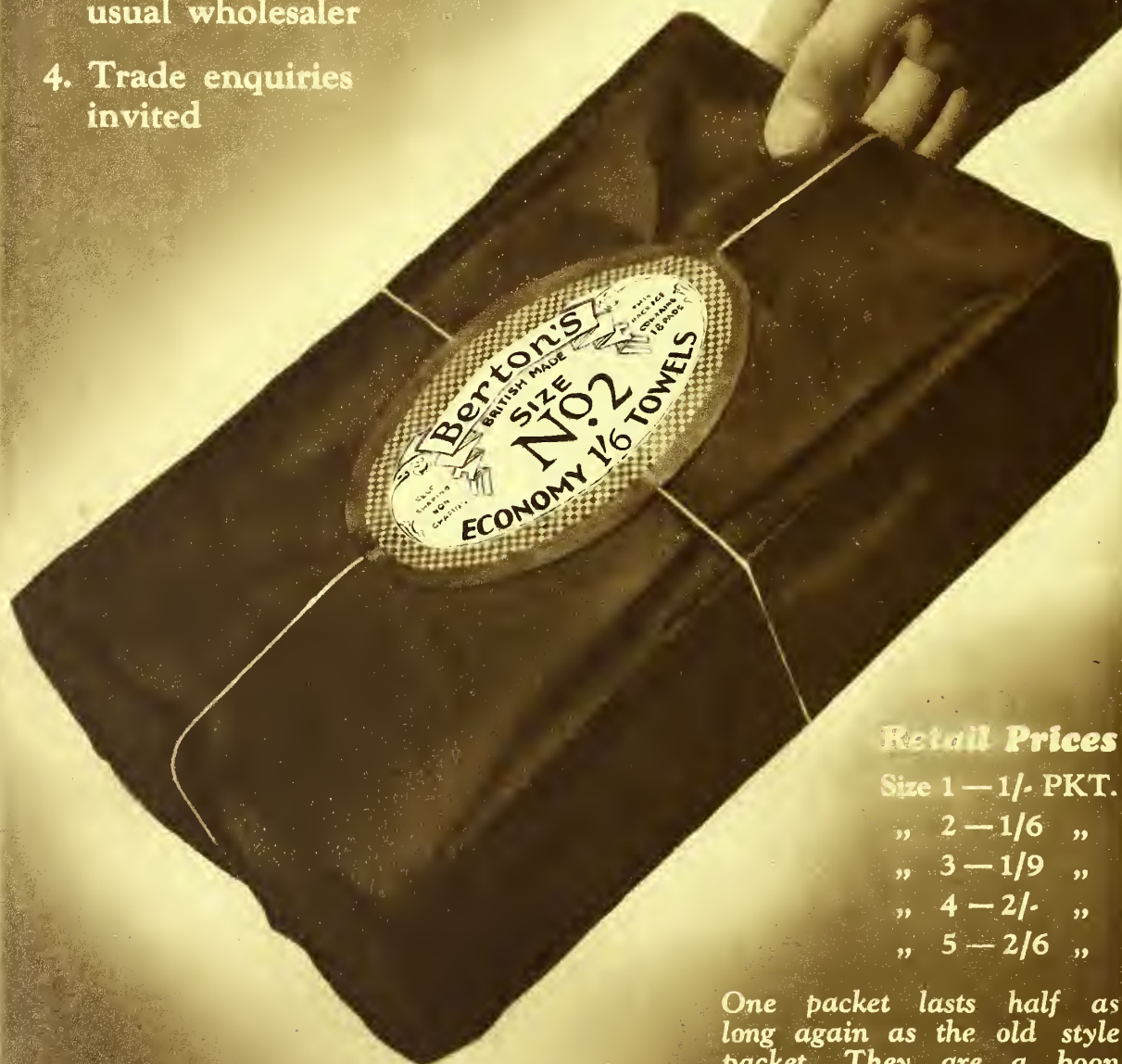
LIVERPOOL
and
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*The National
Service
with local thoroughness*

Bertons' Economy Sanitary Towel

1. To be nationally advertised as from July 1st in the leading Ladies' Journals
2. Retail Prices show clear 50% on cost
3. Supplied direct from manufacturer or through usual wholesaler
4. Trade enquiries invited



Retail Prices

Size 1 — 1/- PKT.

„ 2 — 1/6 „

„ 3 — 1/9 „

„ 4 — 2/- „

„ 5 — 2/6 „

One packet lasts half as long again as the old style packet. They are a boon to the woman who is at business or out of doors all day

Arthur Berton Ltd.

Phones: Clerkenwell 1346-7-8-9

Wires: "Ayballin, Finsquare, London"

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LONDON . E.C.1

MANCHESTER: 36 CHAPEL STREET
GLASGOW: 29 . 31 DUKE STREET

A FULLY-EQUIPPED PRINTING DEPARTMENT provides for every requirement ranging from own name labels for the retail Pharmacist to the preparation of special packs and literature for advertised proprietaries.

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A FULL RANGE OF STANDARD TABLETS AND PILLS is manufactured and a comprehensive stock carried. We specialise in the supply of National Formulary lines packed in convenient quantities from 100 upwards. Special N.F. price card sent on request. The preparation of Tablets and Pills to customers' private and special formulæ receives the greatest care and attention. Accuracy and fidelity to formula are guaranteed.

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PARALACT Tablets

CURACNE Tablets

NETTO Dry Cleaner

HEART SHAPE Digestive Tablets

BELSAM for HAEMORRHOIDS

The efficiency of this unique pile ointment demonstrated in earlier clinical tests has been amply confirmed by the eminently satisfactory results obtained in general practice.

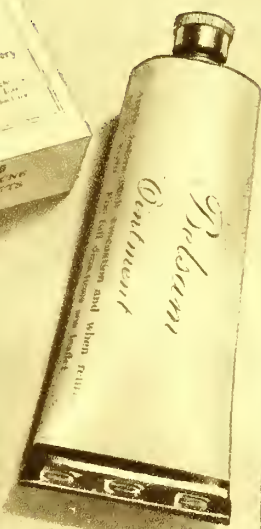
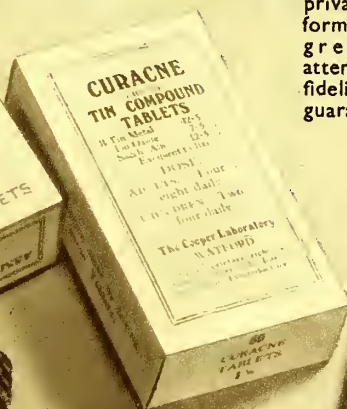
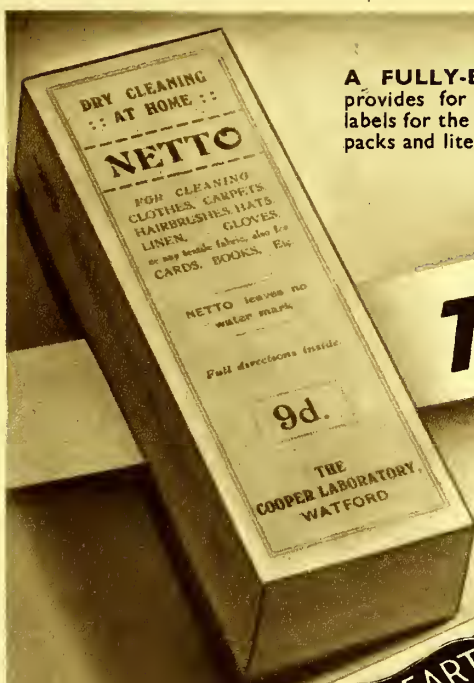
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SAMPLES ON REQUEST

BUY FROM
THE

COOPER LABORATORY
THE SPECIALIST HOUSE, WATFORD

OUR COMPREHENSIVE PRICE LIST
WILL HELP YOU TO INCREASE SALES

WRITE FOR IT NOW





The Malt That Cannot Crystallise...

+ + + You cannot buy better than the best

Wholesale and Bulk enquiries invited. Samples on request



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LEYLAND MILLS, WIGAN

Telephone: Wigan 2327. Telegrams: Maltum, Wigan

DURHAM ROAD, HOLLOWAY, N.7. TELEPHONE, ARCHWAY 3627



JAYTEE'S HUILE D'OLIVE

The Aristocrat of Olive Oils

ELEGANTLY PACKED.

A PROFITABLE LINE, WORTHY
OF THE ATTENTION OF
DISCRIMINATING BUYERS.FREE DISPLAY STAND WITH ORDERS OF
3 dozen ASSORTED SIZES.

RETAIL 10½d. 1/3 2/3 4/- per bottle.

6/6 9/9 17/- 31/- per dozen.

LAVILLE'S TOILET SPECIALITIES

A NEW RANGE OF SUPERIOR TOILET
PREPARATIONS, RESERVED EXCLUSIVELY
FOR PHARMACISTS.
ATTRACTIVE PACKINGS IN 4 oz. DAINTY
WHITE FLINT, WITH BAKELITE CAPS.

Bay Rum, Bay Rum & Cantharidine,
Brilliantine, Coconut Oil Shampoo,
Glycerine & Rose Water, Glycerine & Cucumber,
Hair Cream (Non-Greasy), Hair Cream (with Oil)
Hair Setting Lotion, Pine Shampoo,
Sea Foam Dry Shampoo,
Sunburn Lotion, Sun-Tan Oil,
Toilet Paraffin, Violet Oil,

RETAIL 1/-
DOZ. 6/6
GROSS 72/-

ELIMINATE
STORE
COMPETITION

MAKE A
HANDSOME
DISPLAY

SHOWCARDS
SUPPLIED FREE



John Thompson Ltd.

[WHOLESALE DRUGGISTS, 1921]

27-35, DUKE ST., LIVERPOOL

SUN-TAN OIL PRODUCES THAT SUNSHINE TAN COMPLEXION

SUN-TAN CREAM 3s. 9d. per doz., 42s. 0d. per gr. Neat and Attractive Showcard with each order.

PACKED IN TUBES. EXCELLENT SUMMER LINE.

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FASSETT & JOHNSON, Ltd.
offer a Complete Marketing,
Selling and Distributing
Organisation of many years
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- also on the
- CONTINENT
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FASSETT & JOHNSON, LTD., Specialise in the Marketing
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Every Branch directed by Capable and Experienced Managers.

A Large Outdoor Sales Force.

A thorough Knowledge of the Markets of the Territories covered.

Ample Warehouse Facilities in all the large centres.

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MASON'S EXTRACT of HERBS

THE NATIONAL BEVERAGE

SELLS FREELY EVERYWHERE

Attractive Display Cards Window Show Allowance with Opening Order

Apply for terms to: NEWBALL & MASON, Ltd., NOTTINGHAM

MEET THE CONSTANTLY
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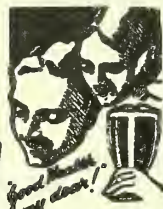
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EASILY MADE AT HOME

FREE
YEAST
WITH EACH
TIN

FOR **1 D**
PER
PINT
ALE OR STOUT
FROM

SIMPLY
ADD
COLD
WATER



VIGGORMALT

(Registered)
THE
PURE TRIPLE-STRENGTH IMPROVED EXTRACT OF
RICH MALT & HOPS ONLY

(NO ADULTERATION OR ADDED COLOURING)

TRIAL SIZE **1/-** PER TIN

3 times quantity 2/6 PER TIN
8 " " 5/6
13 " " 8/-

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Halibut Liver Oil

Finest Refined Quality

This Oil contains Vitamins

A—600 Carr-Price units B.P.

D—1500 International units per gramme

Bottles of 25×3 in Capsules beautifully
packed. 17/- per dozen.

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ESSENTIAL OILS

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ALMONDS	ENGLISH
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W. J. BUSH & CO. LTD.

ASH GROVE, HACKNEY, LONDON, E.8.

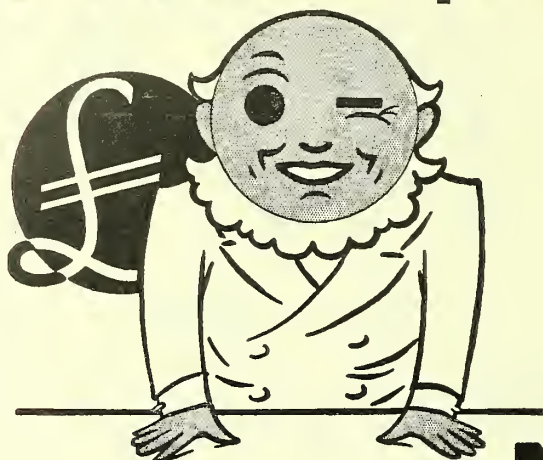
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**MITCHAM (SURREY), WIDNES (LANCS), NEW YORK, MONTREAL, MELBOURNE,
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Let "NOBBY" produce your profits!



A 6 oz. tin makes 6 pints, price 6d

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From all wholesalers, or direct from
Nobby's Products Limited, The
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N.T.3a

Let Nobby do it. Take him under your arm and make a friend of him. He will soon make friends elsewhere by enabling your customers to produce Nobby's Light and Nobby's Dark at 1d. per pint.

Nobby's Light and Nobby's Dark are made from the finest British Barley Malt and Hops and are packed in attractive enamelled tins with separate container for Yeast, and directions for easy home brewing. You can introduce Nobby's with pride, and everyone will take pleasure and profit accordingly. No licence is required to sell Nobby's.

NOBBY'S

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for making ALE  for making STOUT

Brewed at Home

BRITISH WINES

We specialise in . . .

**B.P. ORANGE and
WHITE WINES.**

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MELROSE-DROVER, LIMITED,
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London Office : Dolmeny House, 24/6 Monument St., E.C.3

Established 1872.

Direct Shipments of Wines for Chemists

Shipped expressly from our Spanish House, full duty

SPECIAL

CADIZ SHERRY

We also specially manufacture

"WIN FERRO" TONIC BLOOD WINE,

"CROWN" Brand

LIEBIG'S MEAT AND MALT WINE,

"BROADWAY" ORANGE, "JEANETTE"

MARTINI and "ORCHARD CHERRY"

COCKTAILS. ORANGE WINE.

VIN FERRI CIT, B.P. (1914) STANDARD

Green Ginger, Raisin, Cowslip, Spiced Elderberry, etc., made only from the fresh fruit. Purity fully guaranteed. Highest Awards at all Exhibitions where shown. Full Strength Australian Red, Tawny and White Wines, Australian Sherry and every kind of foreign wine.

DUMAS ★ ★ ★ BRANDY — DOURADOS PORTS

Established 1847

LAMB & WATT, Ltd.
46/48 St. Anne Street, LIVERPOOL

WRITE FOR PRICES AND SAMPLES



The safe cure for
COLDS
CATARRH
 and **HAY-FEVER**
EPHEDROL
 REGD.

A scientific treatment for colds and catarrh, endorsed by leading laryngologists. Also gives instant relief in Hay Fever. More hygienic, more convenient and efficacious than atomiser spray, douche or dropper. In the patent Nasal Bottle.

MORE PROFIT TO THE CHEMIST

78% ON COST

3' SIZE, STANDARD. Protected Retail Price. 23/- per dozen (13 to the dozen). 3 doz. lots 22/- doz. (13 to the dozen).
1'6 SMALL TRIAL SIZE. Protected Retail Price. 12/- per dozen (13 to the dozen). 3 doz. lots 11/- doz. (13 to the dozen).

3 dozen either size carriage paid. Profit on cost over 78%.

CLAY & ABRAHAM, LTD., Manufacturing Chemists, **Liverpool**

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is an Important and Growing
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LENNONS,

the Old Established Chemists, cover the whole of the Country. They have Efficient Wholesale Facilities for Intensive Distribution and Distinctive Retails in the Important Towns



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LENNON LIMITED,
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"CLARKES"

Brand

World-famed Blood-purifying Medicine

"BLOOD MIXTURE"

Registered Trade Mark

Brand

UNSTAMPED, FOR SALE BY CHEMISTS ONLY

P.A.T.A. PRICES

"CLARKES" Brand **BLOOD MIXTURE**
 (Liquid and Tablets)

Retail 3/- 3 doz. lots £4 - 4 - 0 less 3¼% one month
 12 " " £16-16-0 " 8¼% " "

CARRIAGE PAID

PACKING FREE

ASSORTED ORDERS

"CLARKES" Brand	Retail	Per doz.
"BLOOD MIXTURE" (Liquid and Tablets)	3/-	28/-
"BLOOD MIXTURE" (Liquid only)	12/-	112/-
SKIN LOTION ...	1/3	11/8
SALVE	1/3	11/8
"	3/-	28/-
"	5/-	46/8
APERIENT PILLS ...	1/3	11/8
" " ...	3/-	28/-
MEDICATED SOAP		Doz. tablets
Box 3 tablets ...	2/6	7/10
Single tablets ...	1/-	

Orders may be assorted as desired at above rates provided they reach minimum values, as follows:—

£4 - 4 - 0 less 3¼% one month

£16 - 16 - 0 " 8¼% " "

CARRIAGE PAID

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ORDERS may be sent direct or through the usual wholesale houses.

The Lincoln & Midland Counties Drug
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PARK STREET, LINCOLN

Telegrams: "Lindum, Lincoln."

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DRUGGISTS' SUNDRIES

SURGICAL SUNDRIES
HOT WATER BOTTLES
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TOILET BRUSHWARE



SPECIAL ALL GLASS
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Gravities 890/95, 885/90, 880/85.

HIGHEST VISCOSITIES.

BEST CLOUD TESTS.

WHITE & HALF-WHITE OILS

JULES DE GAY,

5 LAURENCE POUNTNEY HILL, SUFFOLK HOUSE, CANNON ST., LONDON, E.C.4

WHOLESALE ONLY.

Phone : Mansion House 9956.



JONES *for*

METHYLATED SPIRIT

ALL STRENGTHS IN STOCK
PROMPT DELIVERIES IN CASKS,
DRUMS OR TANK LORRY

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JONES & CO. (METHYLATORS) Ltd., Bow, London, E.3

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A BRITISH PRODUCT AT COMPETITIVE PRICES

In this unique production a standard of quality has been attained, rarely approached and never surpassed, and of great interest to those who desire a super article, beautifully refined and
MADE IN ENGLAND

"SALVO PETROLIA" *The Perfection of* PETROLEUM JELLY

A true "**Paraffinum Molle**" of the greatest purity and exceptionally free from hard or crystalline Paraffin.

PACKED IN BARRELS, KEGS and TINS.

Samples, prices, and all information sent on application to :

THE DEE OIL COMPANY LTD.
DELTA WORKS, BOOTLE, LIVERPOOL, ENGLAND

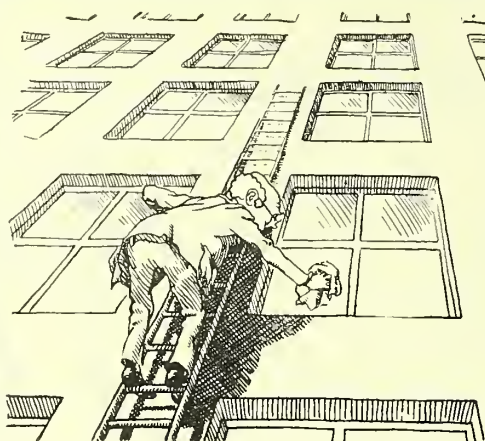
Telephone : Bootle 1897.

Telegrams : "Cestrian," Liverpool.

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OLEUM DEELINÆ (DEE OIL)
THE UNFAILING CURE FOR ECZEMA



1,000 WINDOWS!

..... yes Sir! And I keep 'em clean; year in year out and never fails; you see I am a **SPECIALIST!** Knows me job, if you understand!
 If it is **PACKED GOODS** you are interested in deal with the **PRINTER** who understands your requirements the **PRINTER** who definitely specializes!

DRUG AND ALLIED TRADERS!

Send your enquiries to the **PRINTER** who **SPECIALIZES.**

ALF HARRISON

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ADVERTISING
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Many chemists have found this scheme very profitable with materially increased returns. This method gives an extra check on all transactions. A post card will secure full particulars free of obligation. Write to

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obtainable, and conforms to the
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Telegrams:

SALES OFFICE: "Nyledoxyd, 'Phone, London."

HOME AGENTS:

LANCASHIRE—Dunn Brothers Successors Ltd., 1 Booth
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SCOTLAND—A. G. Paterson & Co., 166 Buchanan Street,
Glasgow, C. 1.

DOMINION AGENTS:

CANADA—Harrisons & Crosfield, Ltd., Coristine Buildings,
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SOUTH AFRICA—Tauber & Corssen (Pty.) Ltd., 32 Rilbeck
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ALL - THE - YEAR - ROUND LINES

"VITAGRAINS." A pleasant, cooling, health restoring, blood-purifying saline. Retail at 10½d. Attractively packed in richly coloured display carton containing ½ dozen bottles. A line which makes a striking window or counter display and one you can recommend with every confidence.

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EZ POWDERS. For headache, neuralgia, influenza, rheumatism, etc. Retail 1/3 and 3/- per box. 100% profit.

KILKOF. (Tackles that tickle) for coughs, colds, bronchitis, catarrh, sore throat, etc. Retail at 1/3 and 3/-.

You can build up a sound business with these nationally advertised lines.



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MANUFACTURING CHEMISTS
BURNLEY



The Elegant Preparations of R. Demuth Frozoclone

REGD.

The original Solid Eau de Cologne. In two sizes: P.A.T.A. Retail 3/6 and 2/-. Wholesale per doz. 28/- and 16/-

SOLID ENGLISH LAVENDER

In Wedgwood Blue Frosted Bottles. Sizes and Prices as Frozoclone

CARNATE

The renowned Nail Polish Poste. P.A.T.A. Retail 1/9, per dozen 14/-
Waterproof and Antiseptic. Cuticle Remover and Nail Cleanser.
P.A.T.A. 1/6. Per dozen 12/-

HARMOZAN

Effervescent Pine Needle Extract Both Squares in TWO SIZES.
P.A.T.A. 3/9 and 2/-. Wholesale 30/- and 16/-

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ANALAX

The popular fruity Loxative in pastille form, Delicious, Effective, Reliable. P.A.T.A. Retail 2/3. Per dozen 21/-

RISICCOL

Demuth's Castor Oil Powder, most effective, absolutely odourless and tasteless. Packed in boxes containing 20 dose bags. P.A.T.A. Retail 3/-. Per dozen 27/-. And in bulk—Special quotations for export. Also other medicinal oils in powder form

MUTHOL

The original Paraffinum Liquidum B.P. in solid emulsion, in three flavours, Raspberry, Orange, Lemon. In reputed 1 lb. Jars. P.A.T.A. Retail 4/-. Per dozen 32/-

R. DEMUTH'S LABORATORIES

Frozoclone

REGD

The Original
Solid
Eau de Cologne



IN TWO SIZES
P.A.T.A.

RETAIL 3/6 & 2/-
Per doz. 28/- & 16/-

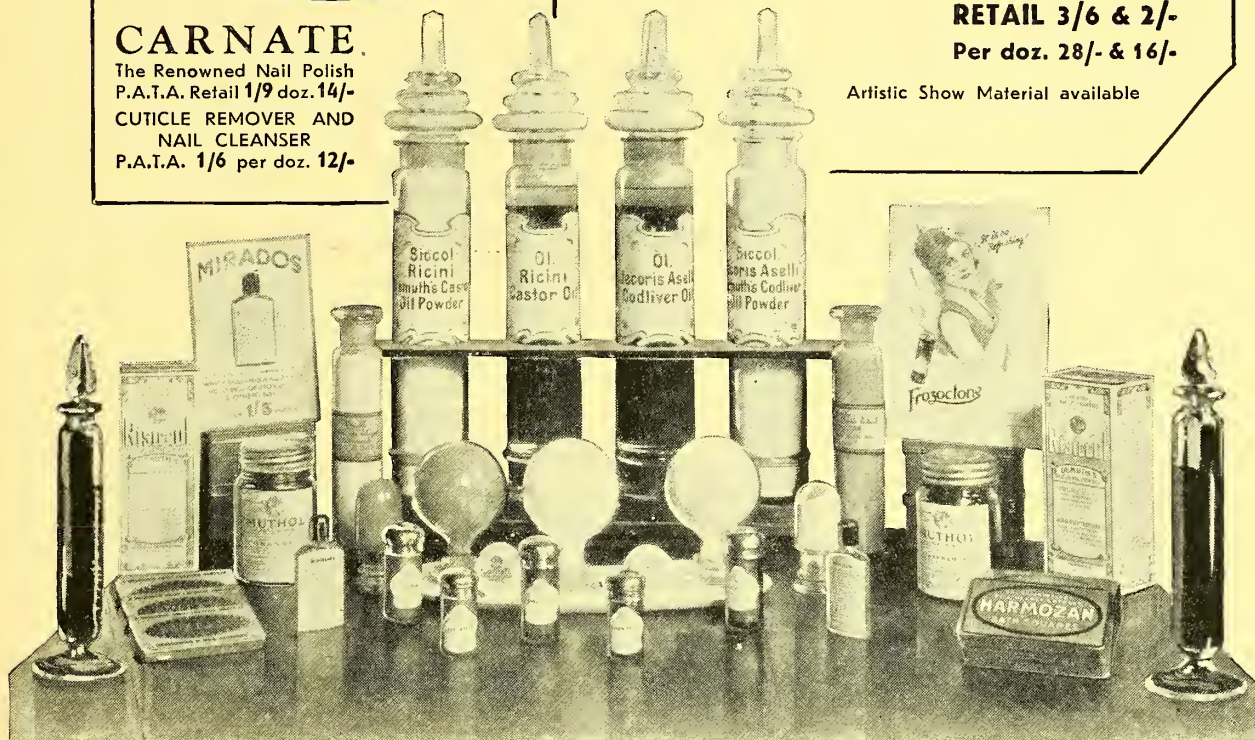
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CARNATE

The Renowned Nail Polish
P.A.T.A. Retail 1/9 doz. 14/-
CUTICLE REMOVER AND
NAIL CLEANSER
P.A.T.A. 1/6 per doz. 12/-

*Imitations of Frozoclone
have been produced under
similar names and styles
of packing, with the object
of misleading the public.
Proceedings have been
taken and always will be
rigorously pursued against
all such imitations.*



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Original Warehouse, 1916—Offices, Patent Medicine & Photo Departments—

**40 YEARS'
CONTINUOUS
PROGRESS**

*The result of our
successful combination
of Highest Quality
Competitive Prices
& Speedy Delivery*



New Building, 1920—Main Warehouse & Manufacturing Departments—

Everything for the Chemist

- DRUGS,
- PHARMACEUTICAL
- CHEMICALS,
- TABLETS, PILLS,
- PACKED GOODS,
- SURGICAL DRESSINGS,
- SUNDRIES,
- PATENT MEDICINES,
- and ALL
- PHOTO & ELECTRICAL
- GOODS.



Additional Warehouse, 1933

7, 9, 11, ASHFIELD, HORTON RD.

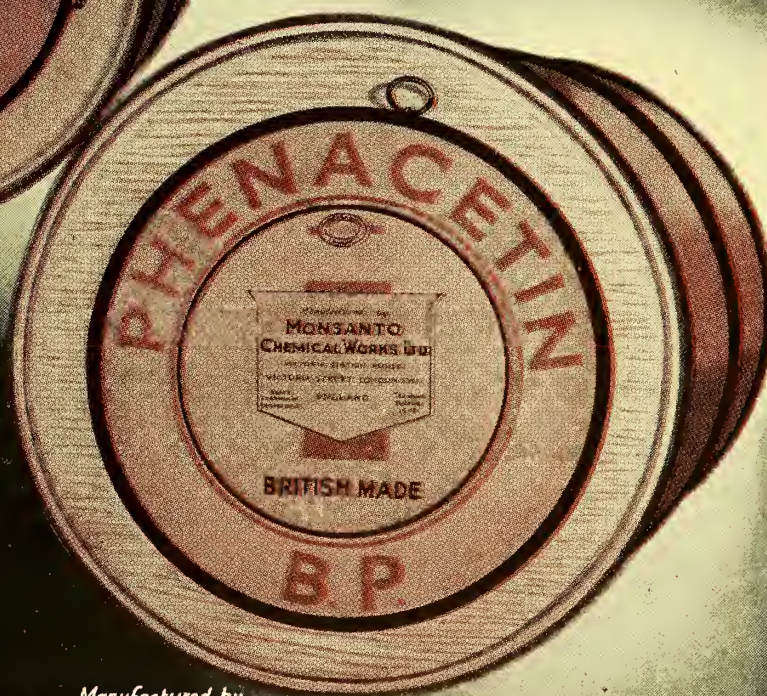
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CHEMICALS!**



**ACETYL SALICYLIC ACID
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as an aid to
Advertising



An opportunity for printing your Advertisement in Black and a Colour will occur in several issues of The Chemist & Druggist during the year 1934

These are the remaining dates this year :

July 21st, September 29th, December 29th,
and the Diary for 1935

THE CHEMIST & DRUGGIST

28 ESSEX STREET, STRAND, LONDON, W.C.2

Telephone : CENTRAL 6565 (8 lines)

May we help you to obtain the best results ?

Announcing

New Terms for

SCOTT'S Brand EMULSION

Parcel lots of SCOTT'S Brand EMULSION at prices as shown below, are obtainable from Scott & Bowne, Ltd., direct, and will be forwarded carriage paid, terms monthly nett.

Parcels may be made up of one or more sizes but must consist of unbroken cases.

Parcel Terms for SCOTT'S Brand EMULSION

Saleable by Chemists only

	TRIAL 1/3 (in 2 doz. or 3 doz. cases)	MEDIUM 3/- (in 1 doz. or 2 doz. cases)	LARGE 5/- (in 1/2 doz. or 1 doz. cases)
Parcel of nett value of 45/- and over	11/3 per doz.	27/- per doz.	45/- per doz.
Parcel of nett value of 100/- and over	10/6 per doz.	25/3 per doz.	42/- per doz.

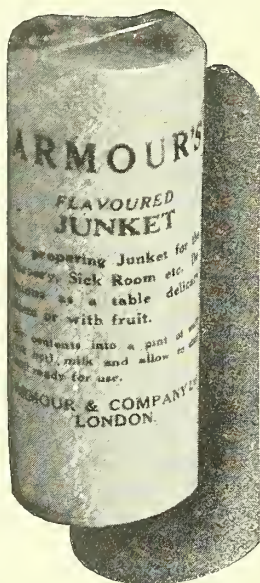
Small quantities under 45/- in value can be obtained through wholesalers at Trial Size 12/-, Medium Size 28/10, Large Size 48/- per doz.

SCOTT'S Brand EMULSION is certain to be a heavier seller during the coming winter months. Many thousands of pounds worth of additional advertising will send old and new customers to your counter. Larger printing orders than ever before have already been placed for striking new showcards and window displays. You are assured of an increased turnover in this steady selling, profitable line.

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ARMOUR'S FLAVOURED JUNKET

A NEW PREPARATION TO CREATE NEW SALES

EASY TO PREPARE
A DELICIOUS
SWEETENED AND
FLAVOURED JUNKET
FOR THE SICKROOM
NURSERY & TABLE

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ADD CONTENTS TO
A PINT OF WARM
MILK — STIR GENTLY
AND ALLOW TO COOL

**3 1/2
OZ
EACH**



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OF
24**

ARMOUR & COMPANY LTD.

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THE wonderful reputation of May Roberts & Co., Ltd., held throughout the Pharmaceutical world for many years, has been built upon the foundation of SERVICE; unfailing attention to all orders whether large or small; avoidance of those little hitches that cause irritation and worry; absolute reliability and accuracy; and the utmost speed in delivery secured through the use of every modern transport aid.

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8260.

Send your orders to -

MAY ROBERTS
& CO., LTD.

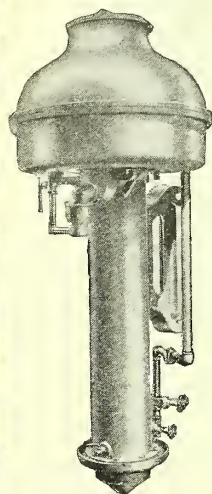
7-13, Clerkenwell Road, London, E.C.1.

BRANCHES:

CARDIFF - - Tredegar House, Hope Street
LIVERPOOL - - 67/73, Duke Street

PLYMOUTH - - 32/3 Kinterbury Street
IRISH FREE STATE - Grand Canal Quay, Dublin, C6.

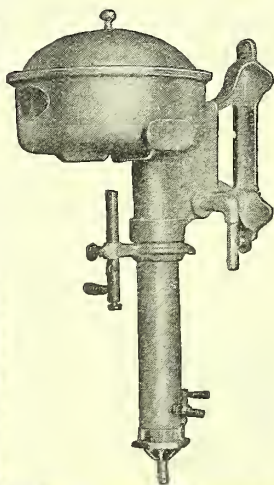
THE STOKES MANESTY AUTOMATIC WATER STILL



These Stills produce distilled water well above B.P. requirements. Operated by gas, paraffin, steam or electricity, producing from 3 pints to 50 gallons per hour. Automatic in action, they are efficient and economical. Please ask for our latest booklet on Automatic Water Stills.

THE STOKES MANESTY "O" WATER STILL £6-10-0 (Gas-heated)

No licence is required for this Still. It has a capacity of three pints per hour, and is ideal for dispensaries, surgeries, hospitals, analysts, etc. It is guaranteed



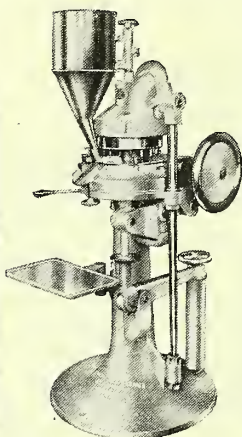
to produce chemically pure water at a minimum cost. Being automatic, it requires no attention. More than 15,000 STOKES STILLs have been sold. The "O" STILL is gas-heated, but when gas is not available a Primus Stove model can be supplied for £7-17-6.

We have had many years' experience, not only in the manufacture of Pharmaceutical Machinery, but also in actual practice, and are always ready to advise you. All prices are carriage paid in the British Isles.

STOKES CHEMICAL AND EQUIP

**TABLET MAKING MACHINES
GRANULATING MIXERS
GRANULATORS, EMULSIFIERS
DRUG**

THE STOKES MANESTY "B" ROTARY TABLET MACHINE

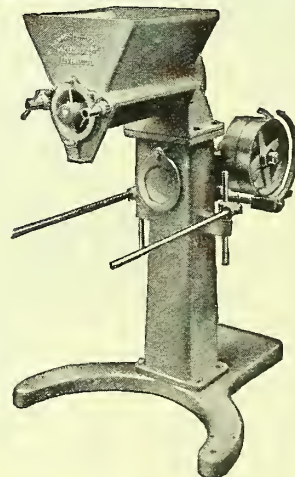


PRICE £180

This is a smaller model of the "D" Machine. It will make tablets up to $\frac{1}{2}$ in. in diameter, and its special feature is that the top punches have a delayed release after compression has taken place, thus keeping compression on the tablet until just before it leaves the die—an obvious advantage when tablets are likely to cap or split. A fine adjustment ensures correct and steady pressure, giving the tablets a uniform hardness of finish. It has grease gun lubrication, is silent in action and is driven by a single pulley fitted with a new type of internal clutch, and can be driven from shaft or motor. All working parts are covered by guards.

THE STOKES MANESTY OSCILLATING GRANULATOR

Every Tablet Manufacturer knows how much time and labour is wasted in obtaining perfect granules. No firm of Tablet Makers can afford to do without the STOKES MANESTY OSCILLATING GRANULATOR. It literally pays for itself in four months. Old cumbersome methods are eliminated and, roughly speaking, it will do the work of about four operators. It saves labour, speeds up work, and does the job most efficiently. It is also recommended for granulating effervescent salts. It is a simple matter to change the wire screens to suit the material and size of granules required. Three stainless steel wire screens are provided with each machine—8, 10 and 12 mesh. A quantity of stainless steel is used in its construction, and gears and bearings are of finest workmanship.



PRICE £85-0-0

MADE BY

THOMPSON & CAPPER WHOLESALE LTD.

MANUFACTURERS OF CHEMICAL AND PHARMACEUTICAL MACHINERY

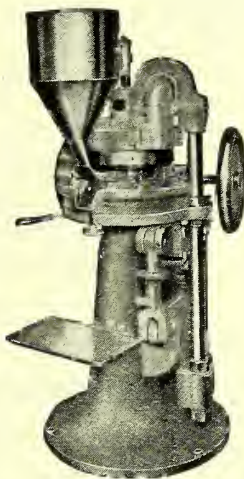
MANESTY BUILDINGS, 5 COLLEGE LANE, LIVERPOOL, 1

MANESTY PHARMACEUTICAL MENT

**AUTOMATIC WATER STILLS
TABLET COATING PANS
COMPACT POWDER PRESS
MILLS, etc.**

THE STOKES MANESTY "D" ROTARY MACHINE

The new model is undoubtedly the most economical machine on the market, and has many advantages. All working parts are covered by guards which can easily be removed. They prevent any oil or dirt coming into contact with the granules or tablets. This machine is almost silent in action and is now fitted with grease gun lubrication. The dust-proof attachments enable all fine powder to be drawn away, thus ensuring absolutely dustless and clean tablets. It will produce a great variety of shapes, and its efficiency greatly reduces manufacturing costs. No manufacturer can compete successfully in the making of tablets unless equipped with this type of machine.

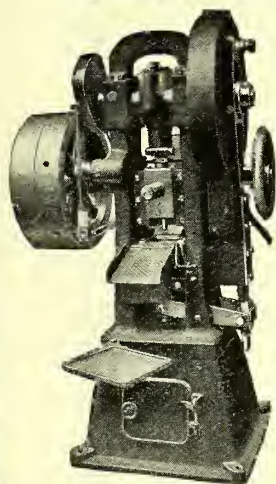


PRICE £240-0-0

THE No. 3 MANESTY TABLET MACHINE

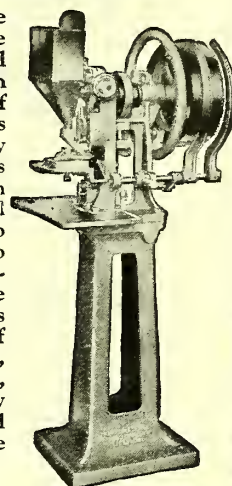
This is a powerful machine, undoubtedly the most popular on the market for making large tablets or blocks. We have supplied a large number for a great variety of purposes, including Lemonade tablets, Coffee and Cocoa tablets, Pea Soaker tablets, Black Lead tablets, Bath Salt cubes, etc. etc. Largely used in the pre-forming of Bakelite and other synthetic resins. Will make tablets up to 2½ inches diameter, and with multiple punches will give an output of about 400 per minute. Adjustments are extremely simple. We have supplied one firm with 75 of these machines.

Price £220-0-0.



THE STOKES MANESTY "E" TABLET MACHINE

This is the smallest single punch power tablet machine that we manufacture. It will make tablets up to ½ inch in diameter, varying in size, of course, according to punches and dies used. It is extremely accurate and will make tablets down to the smallest that can reasonably be desired, and will produce at the rate of 90 to 100 per minute according to the material used. Adjustments are simple and can be effected whilst the machine is running. It will make tablets of any reasonable shape, square, oblong, oval, heart-shape, &c. This is a very solidly built machine and is all that can be desired for the smaller range of tablets.



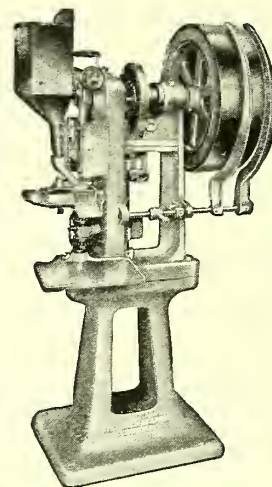
PRICE £45-0-0

THE STOKES "F" TABLET MACHINE

This is a powerful single punch, power-driven machine capable of making tablets up to ¾ inch in diameter. It will make tablets of any reasonable shape (in addition to the ordinary round tablets) such as square, oblong, diamond, heart-shape, oval, &c. It has a larger range than the "E" machine in that it is useful for lozenges and also such things as pre-forming Bakelite and other moulding powders. Adjustments are simple and can be made while the machine is running. Owing to its size and strength this machine is extremely useful in any tablet-making department, as it is capable of making a wide range of tablets.

Price £75-0-0.

Gear-driven
model £85-0-0.



Tell us your problem and we will advise you regarding the most suitable machine for your purpose. We will at any time test your own material on our machines, free of charge.

MADE BY

THOMPSON & CAPPER WHOLESALE LTD.

MANUFACTURERS OF CHEMICAL AND PHARMACEUTICAL MACHINERY

MANESTY BUILDINGS, 5 COLLEGE LANE, LIVERPOOL, 1

We owe you an apology but Demand Exceeds Supply

To any Chemist, and there are many, who has experienced delay in receiving his supply of Cystex, the astoundingly successful Kidney and Bladder Tablets—we offer our apologies. We are working day and night to fill orders and still they come rolling in.

There is an *enormous* public demand, created and ever increased by heavy National advertising, for Cystex Tablets, which have already had many years success in Canada, South Africa and the United States.

Sole Distributors: G. M. Williams & Co., 81 Lamb's Conduit St., London, W.C.1

Cystex BRAND
KIDNEY & BLADDER TABLETS
(Pronounced Siss-tex)



HALMAGON

BRAND

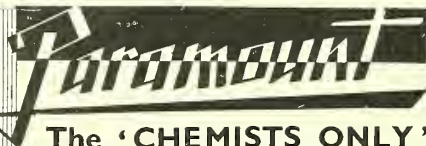
TABLETS

GIVES THE FULLEST MENTAL AND PHYSICAL VIGOUR

Retail price 2/6 net per box of four tubes containing 60 tablets.

If any difficulty be experienced in obtaining supplies, kindly communicate with the address below:

TONICITY LABORATORIES, LTD., Manufacturing Chemists, 26 Great Ormond Street, LONDON, W.C.1.
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PRODUCTS

The 'CHEMISTS ONLY' Confections that really SELL!

PERFECT PACKS — PRODIGIOUS SALES — SPECIAL HIGH PHARMACEUTICAL QUALITY

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NO "SALE OR RETURN" TERMS ARE AVAILABLE WITH PARAMOUNT PRODUCTS. THE ONLY GOODS RETURNED TO US ARE THOUSANDS OF EMPTY JARS

Order some more full ones now from your nearest Depot

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NEWCASTLE DEPOT

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Ideal tonic medicaments



Reduced facsimile
Bottle of 25 products

TRADE MARK 'TABLOID' BRAND TONICS

Free from unpleasant taste which so frequently nauseates the patient.

Do not oxidise and there is no loss of strength.

Remain unimpaired in all climates.

Two noteworthy examples:—

TRADE MARK 'TABLOID' BRAND

HYPOPHOSPHITES COMPOUND

Gr. $1\frac{1}{2}$ (0.097 gm.)=dr. $\frac{1}{2}$ of Standard
Compound Syrup of Hypophosphites

Bottles of 25, plain or sugar-coated products, 8/- per doz. bottles
" " 100 " " " " " 24/- " " "

Gr. 3 (0.194 gm.)=dr. 1 of Standard
Compound Syrup of Hypophosphites

Bottles of 25, plain or sugar-coated products, 12/- per doz. bottles
" " 100 " " " " " 36/- " " "

0.1 gm. Bottles of 25, sugar-coated products, 8/- per doz. bottles
" " 100 " " " " " 24/- " " "
0.2 gm. " " 25 " " " " " 12/- " " "
" " 100 " " " " " 36/- " " "

0.1 gm. and 0.2 gm. products are respectively
equivalent to half a fluid drachm and one fluid
drachm of Standard Compound Syrup of
Hypophosphites

TRADE MARK 'TABLOID' BRAND

EASTON SYRUP

				Per doz. bottles
dr. $\frac{1}{2}$ (1.776 c.c.).	Bottles of 25, sugar-coated products,	10/-		
	" 100 " " " "	30/-		
dr. 1 (3.55 c.c.)	" 25 " " " "	15/-		
	" 100 " " " "	45/-		
2 c.c.	" 25 " " " "	10/-		
	" 100 " " " "	30/-		
4 c.c.	" 25 " " " "	15/-		
	" 100 " " " "	40/-		

London Prices to the Trade (Subject)



"JUST ONE DOSE"

F.R.

A humorous artist's
impression of an
imaginary incident
in ancient practice.



G 1810

BURROUGHS WELLCOME & CO., LONDON

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Are you handing this Distinctive Saline to your Customers?

SALINAX is undoubtedly the right Saline for the up-to-date pharmacy. The sale of SALINAX is restricted to chemists.

We know that SALINAX, once introduced, will retain customers; therefore, in order to make SALINAX known to a wider circle of buyers we are for a limited period making a

SPECIAL BONUS OFFER OF THIRTEEN BOTTLES TO THE DOZEN

for customers willing to display and push the product.

The necessary show material will be sent with every order.

P.A.T.A. PRICES (Home Trade).

Retail 1/3 each. Wholesale 10/- dozen
(13 to the dozen)

Retail 2/3 each. Wholesale 18/- dozen
(13 to the dozen)

Special prices for quantities.
45% Profit on best terms.

B.D.H. London, N.I



THE CHEMIST AND DRUGGIST

A Weekly Journal of Pharmacy, the Drug, Chemical and Allied Trades

*The official organ of The Pharmaceutical Society of Ireland,
The Pharmaceutical Society of Northern Ireland,
The Chemists' and Druggists' Society of Ireland, and of
other Chemists' Societies in Overseas Dominions*

ANNUAL SPECIAL ISSUE 1934

PUBLISHED AT

28 ESSEX STREET, STRAND, LONDON, W.C.2

Telegrams: "Chemicus, Estrand, London" Telephone: Central 6565 (8 lines)

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4 CANNON STREET, MANCHESTER (TEL.: BLACKFRIARS 3052)

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155 AVENUE DE WAGRAM, PARIS, XVII^e (TEL.: ETOILE 19-79)

54 FOSTER'S BUILDINGS, HIGH STREET, SHEFFIELD (TEL.: 22458)

372 FLINDERS LANE, MELBOURNE, AUSTRALIA

CONTENTS

VOL. 120. NO. 2838

JUNE 30, 1934

	PAGE
ARABIC MEDICAL MANUSCRIPT	728
Births	731
BRITISH FINE CHEMICALS, 1921-34	774
British Pharmaceutical Conference	773
Correspondence:—	
Letters	782
Miscellaneous Inquiries	782

	PAGE
Coming Events	718
Deaths	731
Editorial Article:—	
Medicine through the Ages	767
Glass Bottle Manufacture in Leeds ...	759
Irish Notes	718
LEEDS: A CENTRE OF COMMERCE	747

	PAGE
LEEDS PHARMACEUTICAL INDUSTRY	732
Marriages	731
New Companies and Company News	719
News of the Week ...	717
New Premises of Three Progressive Houses	761
Personalities	731
Retrospect	782

	PAGE
SCOTLAND'S CENTRAL CHECKING BUREAU...	768
Scottish Notes	718
SIDE-LIGHTS ON ENGLISH PHARMACY ...	720
Sunburn	772
Topical Reflections ...	719
Trade Notes	765
Trade Report	781
Treatment of Insect Bites	746

News of the Week

Debts Clearing Offices and Import Restrictions Reprisals Bill

The text of this Bill has been published and was passed through its final stages by the House of Commons on Tuesday. It is due to come into operation on July 1, 1934, and, if necessary, to remain in force for a period of two years.

By the first section of the Bill the Government is empowered to set up clearing offices when it appears to the Treasury that payments or transfers from any foreign country to the United Kingdom "are subjected to restrictions or are prohibited or have been discontinued."

By the second section of the Bill the Board of Trade has power to impose restrictions or prohibitions on the importation of such goods as it may specify from any country which, in the Board's opinion, has imposed or is about to impose quantitative restrictions on the import of goods produced in the United Kingdom, the Colonies and other specified countries, provided that in the Board's opinion these latter restrictions appear to be discriminatory or specially detrimental to one or all of the specified countries.

Copies of the Bill may be obtained from H.M. Stationery Office, Kingsway, W.C.2, price twopence.

The Finance Act, 1934

The Finance Bill for the year has obtained its third reading in the House of Commons, with very few amendments. The Chancellor of the Exchequer's first concession of interest is an amendment of the Spirits Act, 1880. Section 95 of that Act provided that a licensed

compounder might warehouse in a duty-free warehouse certain kinds of spirits rectified or compounded by him so that the spirits might be retained free of duty until it was found convenient to remove them whether for exportation or, in the case of some spirits, home consumption. The Section required that the spirits should be warehoused only in casks of a minimum capacity of nine gallons each. The new Act extends the privilege to British compounds in bottle, subject to compliance with such regulations as the Board of Customs and Excise may prescribe. The next concession is the permission granted by the Act to traders to pay for excise licences by cheque, which extends to such licences when issued by local authorities, as in the case of dog and establishment licences issued in England and Wales. Our present Stamp Acts impose a duty in respect of any issue of loan capital; the Finance Act provides that this duty shall not be charged on any loan capital which is of such a description as to be incapable of being dealt in on a stock exchange in the United Kingdom.

Merchandise Marks Bill

The Merchandise Marks (Trade Descriptions) Bill, introduced in the House of Commons on June 21 (Stationery Office: 2d.), gives power to define terms, by Order in Council on the recommendation of the Board of Trade, in relation to trade descriptions. The Board is to act only after referring any question arising under the scheme to a committee and receiving its report. More than one such committee may be constituted. No reference is to be made to a committee with respect to food or drugs within the meaning of the Food and Drugs

(Adulteration) Act, 1928; nor with respect to fertilisers, cattle and poultry foods, insecticides, etc., and therapeutic substances without the concurrence of some Government department concerned. Goods for export receive special treatment. It is intended that the Bill, when it becomes an Act, shall extend to Northern Ireland.

Visits to Works

Eighty-four students from the Liverpool School of Pharmacy visited the laboratories of Evans Sons Lescher & Webb, Ltd., on June 9. The students were received by Messrs. Sendall and Fergusson, and after a tour of the works were entertained to tea. A vote of thanks to the directors was proposed by Mr. Butler and seconded by Mr. Ashton-Hebron. A small party from the School visited Evans's Biological Institute on June 13, and great interest was shown by the students in the biological assays, the preparation of serums, vaccines and other products.

On June 12 a party of members, apprentices and friends from the Burnley and District Branch of the Pharmaceutical Society, numbering sixty-six, paid a visit to the galenical laboratories of Evans Sons Lescher & Webb, Ltd., Liverpool. Travelling by motor coaches and favoured by glorious weather the outing was a great success. After an interesting and instructive afternoon spent in inspecting the laboratories, the visitors were entertained to tea at the Bear's Paw restaurant. A vote of thanks to the company was moved by Mr. T. Ralph (chairman), and seconded by Mr. R. Hudson (secretary), and was responded to by Mr. Fergusson (director), supported by Mr. Sendall (director).

At the invitation of Ilford, Ltd., a large number of the members of the Western (London) Pharmacists' Association and West London Branch of the Pharmaceutical Society paid a visit to the Selo film factory at Warley, Essex, recently. The party travelled by motor coach and were met by Mr. Krauschaar (sales manager). Following a tour of the factory the visitors were entertained to tea. Captain Illingworth extended a hearty welcome to everyone, and Mr. Gwilym Thomas (president) proposed a vote of thanks to the directors of Ilford, Ltd. He also thanked Messrs. Krauschaar, Davidson, Davis and Sherborne for a most enjoyable visit. This was seconded by Mr. D. T. Jones (secretary) and supported by Mr. C. A. Noble.

Miscellaneous

GIFT TO INFIRMARY.—F. M. Rimmington & Son, Ltd., chemists, Bradford, have made a gift of £10 to an auction fair held in aid of the building fund of the new Bradford Infirmary.

POISON-LICENCE APPLICATIONS.—G. & J. Heathcott, Chapel-en-le-Frith and Castleton, have applied to the Derbyshire County Council for a licence to sell agricultural and horticultural poisons. Similar applications have been made to their respective local authorities by Mr. G. M. Harding, Blandford, and Mr. R. J. Palser, Barnstaple.

REDUCTION OF WORKING HOURS.—The directors of The British Drug Houses, Ltd., have reduced working hours experimentally from forty-eight to forty-four per week without alteration of rates of pay. The reduction is for a period of three months, and does not apply to the office staff or to others whose normal working hours are less than forty-eight per week.

EMPLOYEES' INVENTIONS.—A Bill for the protection of employees who apply for patent rights in respect of inventions has been introduced into the House of Commons, and is published (price 1d.) by the Stationery Office. The Bill, which consists of two clauses, provides for securing remuneration and against the abuse of rights. "Employer" and "employee" are defined. It is proposed that the Bill shall come into operation on October 1.

MARKING OF FOREIGN CLOCKS.—An Order in Council (S.R. & O., 1934, No. 300: Stationery Office, 1d.) providing for the marking of all foreign clocks imported or exposed for sale became operative as from June 22.

Existing stocks imported prior to that date will comply with the Order in Council provided that they bear a label securely attached. The British Clock Manufacturers' Association has had labels printed for the purpose, and these are obtainable at a small charge on application to the office of the Association, 8 Staple Inn, London, W.C.1.

SUSPECTED POISONING.—After taking afternoon tea, twenty-seven members of the staff of Hall, Forster & Co., Ltd., manufacturing chemists, Temple Street, Newcastle-on-Tyne, were overcome with sudden illness and were removed to the Royal Victoria Infirmary suffering from suspected poisoning on June 22. They include Mr. J. Hall Forster (managing director) and his daughter, Miss Dora Forster. Twelve employees were allowed to go home, but fifteen were detained, among them being Mr. J. Harry Riddle (director) and Mr. John Reid (secretary). The matter is being investigated.

Scottish Notes

North British Executive Election

The number of voting papers issued in this year's election of the North British Executive of the Pharmaceutical Society was 2,630; the number returned was 574, of which eight were informal. The following was the result of the poll:—

Harley	436	Murray	323
Stewart	408	McCall	293
Arthur	405	Somerville	283
Bennett	402		
Mackenzie, T.	398	Todd	281
Culbert	395	Mitchell	270
Hay	381	Tainsh	232
Milne	380	Drummond	227
Duff	376	Boag	208
Mackenzie, D. G.	365	McLaren	176
Miller	350	Rosie	167
Carmichael	330	Kelly	148
Currie	329	Scarlett	133

The first sixteen have been declared elected, constituting, with the president of the Society, the vice-president, and Messrs. A. A. Dick, T. Guthrie and J. Jack as *ex-officio* members, the Executive for the year 1934-35.

Irish Notes

Brevities

Mr. Hugh P. Corrigan, M.P.S.I., is opening a pharmacy at the junction of Malahide Road and Griffith Avenue, Dublin.

Sir Thomas McMullan (a member of the Council of the Pharmaceutical Society of Northern Ireland) has been re-elected chairman of Bangor (co. Down) Hospital.

Sir Thomas Robinson (a member of the Council of the Pharmaceutical Society of Ireland) is spending a holiday in the United States.

The registrar of the Pharmaceutical Society of Ireland has written to the Sligo Committee of Agriculture in reference to the resolution (C. & D., May 26, p. 584) passed by them "protesting against the recent order scheduling certain preparations of carbolic acid." This resolution, wrote Mr. Kerr, has been passed under a misapprehension. There has been no interference with the rights of those persons who are licensed under the Poisons and Pharmacy Act, 1908, to sell sheep dip.

Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc. occur.

Thursday, July 5

London Chemists' Associations, Maw's Sports Grounds, New Barnet, at 2.30 p.m. Inter-association sports.

Pharmaceutical Society of Great Britain, Walsall Branch, Stoneleigh, Stafford Road, Bloxwich. Garden party in aid of the Society's Benevolent Fund.

New Companies and Company News

P.C. means Private Company and R.O. Registered Office

PHARGENE, LTD. (P.C.).—Capital £5,000. Objects: To carry on the business of manufacturers of and dealers in perfumes and essences, soaps, etc. R.O.: Pollen House, Cork Street, W.I.

CIBA, LTD. (P.C.).—Capital £50,000. Objects: To acquire and carry on as a going concern the pharmaceutical department of the Clayton Aniline Company, Ltd. (except as mentioned in an agreement with that company), and also to acquire the appointment as sole concessionaires for the sale and the adopting for sale and distribution of pharmaceutical products manufactured by the Society of Chemical Industry in Basle, Switzerland, in the United Kingdom of Great Britain and Ireland and the Isle of Man and South Africa, etc. R.O.: 40 Southwark Street, S.E.1.

BRITISH OXYGEN Co., LTD.—Half-yearly dividend declared on the 6½ per cent. preference stock.

TIMOTHY WHITES, LTD.—Interim dividend announced of 5 per cent., less tax, on the deferred ordinary shares.

BOVRIL, LTD.—Half-yearly payments on 6 per cent. preference and on ordinary shares at rate of 7½ per cent. per annum, less tax, for six months ending June 30, 1934. Warrants will be posted on August 1.

SANGERS, LTD.—The report for the year to March 31, 1934, shows trading profit, including dividends, etc.,

and deducting fees, but before making tax provision, at £139,971. Tax provision absorbs £33,614, and the final dividend on the old ordinary shares is 11½ per cent., making 20 per cent. For the previous year a final dividend of 10 per cent., making 17½ per cent., was paid. The new ordinary shares will receive 10 per cent., actual, and now rank *pari passu* with the old ordinary shares. The carry-forward is £67,469, against £42,593 brought in. The balance-sheet reflects expansion during the period. Issued capital is up from £500,000 to £1,040,000, and subsidiary investments from £4,850 to £643,600, while amounts due from subsidiaries now appear at £98,524. A capital reserve of £200,000 has been created out of share premiums received. Annual meeting at the Holborn Restaurant, W.C.2, on Wednesday, July 4, at noon.

PHOSFERINE (ASHTON & PARSONS), LTD.—Directors' report and statement of accounts for the year ended April 30, 1934, shows a trading profit of £41,989 os. 5d., including dividends and interest on investments (as compared with £39,527 17s. 11d. for the previous twelve months). To be added to the above sum is profit on realisation of investments. After providing for depreciation, income tax, directors' fees and loss on exchange, there remained a profit of £47,769 1s. 8d., which, with £4,812 17s. 8d. brought forward, makes a total of £52,581 19s. 4d. available for distribution. The directors have decided to set aside £5,000 in reduction of preliminary expenses. Dividend on the 8 per cent. cumulative participating ordinary shares, £32,000, with a further dividend of ½ per cent. recommended, £2,000; dividend on the deferred shares at the rate of 4 per cent., £4,000, leaving a balance carried forward of £9,581 19s. 4d. The director due to retire is Mr. G. W. Caton, who offers himself for re-election.

Topical Reflections

By Xrayser

A Powerful Blow

at the cutting of drug prices was dealt in your editorial article on p. 703 of last week's issue; the arguments were developed in a logical manner, and it would be interesting to know the attitude of the cutter in face of such. Cutting is anti-social and very selfish; the cutter is always thinking of the immediate future, and never takes the long view. I have always held and practised the belief that reasonable prices can be obtained for drugs, even in the face of severe competition by multiple-shop companies or by other pharmacists. A reputation for good drugs persists through several decades; even though the pharmacy has become shabby so far as furniture and fittings are concerned, if the public once get the idea that the goods sold there are dependable no amount of opposition from cutters will destroy it. I call to mind a pharmacy exactly opposite a branch of a multiple-shop company, in the window of which seidlitz powders were offered at 6½d. per one-dozen box. The pharmacist had no difficulty in getting 1s. 6d. for a box of the same size, because his customers were satisfied with what he had supplied on many previous occasions and had no desire to try cheaper and possibly inferior articles. Many pharmacists lack the courage to make a stand against the practice of meeting low prices by lower; but until such a stand is general there will be little progress towards putting the commercial side of pharmacy on a higher level.

Business Archives

have their value; and the letter (p. 689) announcing the formation of a council for the preservation of business documents comes at an opportune time. The idea is that documents not less than 100 years old should be carefully sought out, classified, and steps taken to preserve them. The pulling down of old business premises and the tendency to destroy old papers and

documents in the process is proceeding apace to-day; just at present the necessity for making a living has blotted out, in many instances, all respect for traditions as represented by archives. In pharmacy documents of 100 years or more ago may be very valuable. There are many businesses that have been in existence for more than a century, and perhaps a records society, or association, for pharmacy, could be started as a section or branch of the organisation mentioned. If, however, your notice has drawn attention to the necessity of preserving old papers that are likely to be valuable, it will have served its purpose.

The Experience

of your correspondent who dispensed a script for a powder for which the mother of the patient expected to pay a penny (p. 715) is, I hope, not a common one. I agree with him that the medical staffs of clinics get an erroneous idea of what a pharmacist should charge, because of the absurd prices charged at child-welfare centres, particularly for simple medicinal substances. A few weeks ago I visited a centre attached to a London metropolitan borough, and I was surprised to find a queue of mothers waiting at the window of the dispensary for scripts to be dispensed. I learnt that the work was in charge of a pharmacist with the Major qualification, and that the prices charged were nominal. While it is true that many child-welfare clinics do not now dispense or supply foods, handing over this work to the pharmacist, there are still many large ones where the money of the ratepayers is being spent for work that could easily be done in the pharmacy. Chemists should agitate for the transfer of all dispensing at child-welfare clinics to themselves as well as the supply of foods. Although big profits on such work cannot be expected, the business, when obtained, is new and should be welcome.

SIDE-LIGHTS ON ENGLISH PHARMACY

1550-1650

THE period with which this narrative is concerned is one comprising just over 100 years, from the time of Henry VIII's last illness to the early part of the Commonwealth. The forty-five years of Elizabeth's reign were so important, in setting the pace and the standards for much that was to come, that we may consider the pages that follow as chiefly, though not exclusively, an exposition of pharmacy as practised by Elizabethan apothecaries. A few sentences from the brilliant chapter that the late Sir Walter Raleigh (not Elizabeth's Sir Walter) contributed to "Shakespeare's England" (1916) will serve to give us a glimpse of that remarkable era:—

"Immense changes were wrought in the daily life of the people during the half-century covered by Shakespeare's lifetime. . . . Old men who lived on into the reign of James I found themselves in a world utterly unlike the world of their boyhood. . . . A few, a very few, of the writers of Shakespeare's time record some of the changes as matter for congratulation. . . . With the increase of wealth, houses in the country were enlarged and made more solid, and the dairy, stable and brewhouse were put under separate roofs, adjoining the main building. Also glass was brought in, not only for windows, instead of the older wooden lattice-work or panels made of horn, but in a more delicate kind, for drinking-vessels, in preference even to gold and silver goblets. . . . If the houses were sometimes scantily furnished, among all but the poorer classes there was great plenty and variety of meats. . . . Stow says that in his time gentlemen, citizens and yeomen wore better habit and household ornaments than any Earl or Countess in former ages."

Before we part from "Shakespeare's England," two matters of pharmaceutical interest may be noted. In his chapter on the plants of the period the late Sir William Thistlethorn-Dyer sets forth the reasons for his view that the hebenon of Shakespeare was hyoscyamus, not yew; and in describing ruffs, Sir Walter Raleigh adds the curious detail that Anne Turner, the widow of a doctor of medicine and one of the defendants in the Overbury trial, was the inventor of yellow starch. It was ordered by the Lord Chief Justice that she should be hanged in a yellow ruff, and even the hangman was similarly decorated for the occasion.

In the Middle Ages the number of physicians was relatively small, medical practice being largely in the hands of apothecaries and barbers (C. & D., 1929, II, 742); but the sixteenth century witnessed a great change in this respect. Chemical preparations were, as we know, admitted to the shops of the apothecaries very gradually, the great majority of the medicines in use being simples or galenicals. By consulting relevant treatises of the Tudor and Stuart periods we can form a fairly accurate idea of the kind of business the apothecaries carried on, and, if it were needed, could compile a stock list for their use.

Many people must have been intrigued by this sentence in the first edition (1818) of S. F. Gray's "Supplement to the Pharmacopœias":—

"Before the publication of local Pharmacopœias, the apothecaries kept in their shops the six following books: Avicenna on Simples; Serapion on the same subject; Simon Januensis De Synonymis, and his Quid pro quo; the Liber Servitoris of Bulchasin Ben Aberazerin, treating of the preparation of minerals, plants and animals; the Antidotarium of Johannes Damascenus or Mesue, arranged in classes like the present Pharmacopœias; and the Antidotarium of Nicolaus de Salerno, arranged alphabetically, of which there were two editions in use. . . ."

This rather loosely worded statement is probably not intended to imply that every apothecary kept all the six (or seven) books mentioned; but it apparently means that a selection of them was in use in apothecaries' shops in London till 1618, in Edinburgh till 1699, and in Dublin till 1807. Fortunately, we are able to consult two lists of much greater authority, and to avail ourselves of a third source of authentic information. One list is found in William Bullein's "Bulwarke of Defence against all Sicknesse, Soarnesse, and Woundes . . .," the first edition of which is dated 1562. It occurs among the twenty-one rules for apothecaries—best known, perhaps, by the oft-quoted nineteenth rule—which we show on p. 722. The other list

for all to know
Cunyes at Horad
Innos partes
(B) A bain. 3. grains
A myn. 3. grains
Vesubi. 2. grains
make Stilexon out of dandr 4 gra
poulder in my fove the y other
pote fove fit fove the y other
fit ad nge fit fove the y other
fit melle ad nge fit fove the y other
poulder & ale ad nge fit fove the y other
Eye fove rissall nore
the fove but fove the y other
Small ad fove fit in the
Spixit of nore ad nore
will fove fit to a fove
out fove but fove the y other
pote fove the y other
Small ad fove fit in the
pote fove the y other
in fove ad nore
Silver & dandr
Cardus wat 4 on
nore fove wat 4 of
Remyne wat 4 of
Cinnale a dandr
pote a dandr & fove

PAGE OF PRESCRIPTIONS WRITTEN CIRCA 1600
FROM MS. IN THE SLOANE COLLECTION
(reduced by one-fourth)

occurs in a late edition (1651) of Robert Recorde's "The Urinal of Physick," first published in 1548. The second part of this edition of 1651 is headed "A Detection of Some Faults in Unskilful Physitians, Ignorant and Carless Apothecaries, and unknowing running Chirurgians. Written by a Doctor of Physick in Queen Elizabeth's dayes," and it is described as being "a Book out of Print, and almost knowledge." The books that an apothecary should have in his shop are thus enumerated:—

"... first of all, for the chief guide and Instrument, that should rule all the rest, I mean the Book of Bernardus, Dessennius, Cronenburgius, *De compositione medicamentorum*: The perfectest in my opinion, and most excellent Book, I beleeve, that ever was made for Apothecaries. Howbeit, because that some Physitians use the compositions of other Authors; I would wish also that the Apothecarie might not be without the Dispensatories of Valerius Cordus, of Fuchsius, or Nicolaus Mirepsus, or the two Books of Silvius... Or, *Examen tam simplicium quæ compositorum, Antonii Musæ*, and not to follow still their blind Nicolaus Præpositus, which is full of errors.... The Apothecaries have many excellent Dispensatories... as the new *Pharmacopœa Londinensis*, that of Renodeus, of Bauderon, Bertaldus, the *Pharmacopœa Augustava* & others: As also in Chymick preparations, Grulingius, and those two excellent Peeces set forth by Schraderus, his *Pharmacopœa & Quercitanus Rodivivus*...."

DE COMPOSITIO

NE MEDICAMENTORVM, HODIERNO AEVO, APVD PHARMACOPOLAS, PASSIM EXTANTIVM: ET QVO ARTIFICIO eadem rectè parari queant cum Simplicium, atque Aromaticum (quibus constitunt) expositionibus, ac pleiorumque omnium delectu, L. I. B. R. I. X. Non Medicis & Pharmacopœis tantum, sed omnibus insuper rerum cognoscendarum stydiolis, utilissimi patet ac necessaria. Vbi singula ad ipsissimam ueritatem expendantur, plurimi errores aperiuntur, & controuersie frequentes conciliantur,
Autore BERNARDO Delfinio Cronenburgio, Doctore Medico Colonienfi.

IN INVIDIAM AVTOR:
Doctus manus Medici, tractat genus omne malorum,
Ail mordax luxur, spernit opem medicam.

Quid unoquoque libro continetur, uerba pagina indicat.

Cum Indice locupletissimo, Latino ac Germanico



Cum Gratia, & Privilegio Imperiali nobis, ad octennium.

FRANCOFORTI,
Apud Hæred. Chr. Egenolphii,
M. D. LV.

TITLE-PAGE OF "DE COMPOSITIONE MEDICAMENTORUM," 1555 (reduced by two-fifths)

The first editions of most of the books mentioned date from the early years of printing. Some of the books in this lengthy list were referred to in our Special Issue of June 25, 1927. Although it is not within the scope of this article to discuss each of the remainder of the books separately, a few lines may be spared for a brief account of the "De Compositione Medicamentorum" of Bernardus Dessennius Cronenburgius, M.D. Colonienensis, in view of the lavish praise that we have quoted. The oldest copy in the British Museum was printed in Frankfurt in 1555, and comprises 154 pages. It is arranged somewhat in dispensatory form, each formula being followed by the author's comments. His list of authors referred to numbers 197 names, and his comments are interspersed with quotations from Virgil and other Latin poets. The work is in Latin throughout, with the

exception of a second index in German. All quantities are written in words, without abbreviation; and each double folio is divided into four parts (A—D) for reference. Cronenburgius seems to have taken his Latin titles as he found them: thus we have "acetum scillinum," "oxymel scilliticum" and "vinum scillæ." There is considerable variety among formulas with the same or similar titles; for instance, three *hiera picras* are attributed to Galen, one of which came through Mesuë and another through Nicolaus Præpositus. Similarly there are two formulas for *pilula cochiae*, one from Galen and the other from Rhazes. According to our author, the pill of Rufus should be made with aloes, myrrh and ammoniacum, the one containing aloes, myrrh and saffron being properly the *pilula communis* of Rhazes. Some of the comments, printed (as our illustration below shows) in small italic type, do not err on the side of brevity: that on aqua hordei, for example, occupies about two and a half folio pages, and the one on "unguentum pediculos potenter necans" more than three pages. This last-mentioned formula, containing as it does staphisagria and sulphur vivum, has almost a modern appearance.

But let us return to William Bullein.

Bullein's "Bulwarke"

HIS "Bulwarke," the full title of which will be found in the illustration on p. 722, had an unusual adventure in the manuscript stage. First it was lost in a shipwreck, and then it was rewritten in prison, where the author was kept at the instance of the brother

DE COMPOSITIONE

Oxymel scilliticum simplex Mesue.

Oxymel scillicum duplex Mesue.

Rec. Mellis depumati libras tres, Aceti scillitici libras duas. Coquantur, depumantur, & perficiat.

tur decoctio eius, uelut diximus in speciebus secantabin, id est, simplici oxymelite.

CRONENBURGIUS.

Quoniam hoc magnam quantitatem mellis recipit, suauiter & aceto scillitico, uelut diximus, exhibet. Duo alia que apponit Mesue de radicibus, ex nomine Democriti, non parantur. Quod Alexander Trallianus lib. 7. cap. 13. exponit, certum nudi est Paulum 2. cap. 11. deseripisse, quamuis ille apud Mesum, scilicet, agnoscere habeat, pro quibus hic Ammi, anglm, & farum, ex Rhicopontum ponit. Simpliciter ex Orisio Alexandri cap. 707. transiit. Ego hoc loco pretermis, uti uolens in promptu sunt loca, Trallianum adumbrat Auicenna lib. quinto Tra. 8. titulo 5. & rupi acetosi folioli scillitici. Marcellus Medicus cap. 20.

Oxymel scillicum duplex Mesue.

Accipit scillæ libram unam. Aquæ fontium libras quatuor, & semissem. Coquit ad libram unam & mediam: post unius diei fermentatione, olla interm firmissime obtus.

rata, expressæ & scilla colaturæ admiscet aceti optimi tantundem, mellis expumati libras tres: Rursus leuiter ad consistentiam ebullit.

Quatuor modis ab his diuersis ostendit placemus de Medicinis cap. 13. Porro in Mesue compositione, aque duplum apponi debet, uelut ceti libri & quatuor: atq. id inuenit, quando aut, perficiatur decoctio eius. Ad finem, aquæ libæ & aceti scillæ addende, & ablata spuma, & crassificata coniecta bullien de erunt. Libro autem decimo, fermentationem omnem de aceto scillitico expeditur.

PART OF PAGE FROM "DE COMPOSITIONE MEDICAMENTORUM," GIVING TWO FORMULAS, WITH COMMENTS BY CRONENBURGIUS

(reduced by nearly one-half)

of the patron to whom the book was dedicated. The first section, headed "The Booke of Simples," extends to ninety folios (180 pages), and is followed by three pages of illustrations (one shown on p. 723) and an index. Then follows "A Little Dialogue" (the whole book is in dialogue form) between "Sorenes" and "Chyrgi" (ninety-six pages), and finally "The Booke of Compoundes," including "The Booke of the Vse of sicke Men, and Medicens" (164 pages). The "Little Dialogue" contains a remarkable list of ancient and modern practitioners of medicine and surgery; among them we find Albertus Magnus, Butts, C. L. Galenus, Gulihelmus Turnerus Med. Doc. Cant., Hippocrates Coy. Princ. Medicorum, Lynakerus Docter Medic., and Theophrastus Peraselpus (sic).

In a few instances the sources of the compounds are acknowledged, but usually they appear as if devised by the author of the book. Some of them are worth reprinting—for instance, *Hiera picra* Galeni:—

"Firste take of Saffron, Spicknarde, the wood of Balme, Casia fistula, Cinamon, Masticke, ana. 3.vj. of Aloes, a hundreth .5. and take of Honie, as moche, as will suffice, beate them, and worke them all in the iuce of Cole wortes, Worme wood, or wine, that thei maie be so mingled together, as Leuen in Dowe,

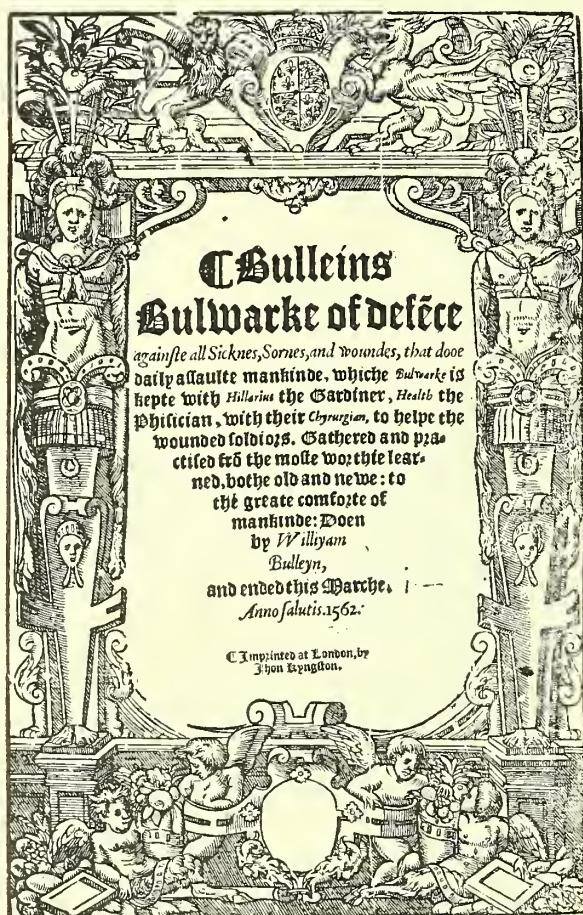
put vnto them Scamoni that thei maie the better cleaue together, and also purge the bodie of Choler, if you will put Agarike, and the inner parte of Coloquintida then it will purge Fleume, and if the flower of harder Tyme, bee mingled with it, then Melancholie is purged."

Bullein goes on to say that in order to make the action more gentle, apothecaries put in twice as much of aloes as "of all the other kinds." Oxymel "Squilliticum" is made by seething sufficiently 3 lb. of clarified honey in 2 lb. of vinegar of squill. Another fairly simple recipe is for a pomander:—

"Take of Storax Calamita .5iss. of Benjamin .5ij. of the gumme of Ladanum .5ss. of Cloves, White

Scamonie, 5ij. of Turbith [,] Sticades, ana. 3v., massed with syrup of Sticados; "these doe purge the hedde merueiously well." Reubarbe pilles have this composition:—Liquores, iuce of Wormewood, Mastike, ana. 3j. of the first kinde of Mirabolans 3iiiss. of Smallage seede, wilde Lillies, Fenel, ana. 3ss. of Trochisti, Diarodon, ana. 3iiiss. of Heira Picra, 3x. of Reubarbe 3iiij., massed with Fenell water.

Although Bullein has swollen his book with many rambling comments on historical and religious themes, he seems to have taken pains to compress his twenty-one rules (or "notes," as he also calls them). As these are quite legible in the illustration in this column, we are not reprinting them. The still-quoted one about the



TITLE-PAGE OF BULLEIN'S "BULWARKE OF DEFENCE," 1562 (reduced by two-fifths)

Saunders, ana. 3ij. of Roses, Mergeram, ana. 3iiiss. mingle with these powders of Muske and Ambergrice, ana. 9j. make your baule with the infusion of Rose water and Siuet, in a mortar somewhat warme." (In the 1579 edition the proportions of the ingredients are changed.)

Theriaca Galeni, on the other hand, has fifty-two ingredients and an optional one.

The formulas for pills, twenty-six in number, are usually headed with a Latin title commencing with "Pilule." The first is "Pilule sine quibus noli" (an interesting title). Aloes was the principal ingredient, 3xij. of it being mixed with 3j. of each of the following:—Mirabolans (five kinds), reubarbe, mastike, roses, wormewood, violttes, sene, agarike, and dodder; this was massed with a mixture of scammony and fennel juice. Pilule cochie had this formula:—The powder of Hiera picra 3x. of Coloquintida, 3iiij., 9j. of

- i. That he first serue God, forſee the ende, bee cleanly, pittie the poore.
- ii. That not be ſuborned for money, to hurte mankinde.
- iii. His place of dwelling, a ſhop, to be cleanly to pleaſe the feces withal.
- iiii. His garden muſt be at hand, with plenty of herbes, ſeeds, & rootes.
- v. To ſowe, ſet, plant, gather, preſerue and keepe them in due tyme.
- vi. To reade Diſcordes, to knowe the natures of plantes and herbes, &c.
- vii. To inuente medicenes, to choſe by colour, taſt, odour, figure, &c.
- viii. To haue his morters, ſiftes, pottes, filters, glaſſes, bores cleane and ſwete, &c.
- ix. To haue Charcoles at hande, to make decoctions, ſyrupes, &c.
- x. To keepe his cleane wares cloſe, and caſt a waie the baggage.
- xi. To haue two places in his Shoppe, one moſt cleane for the phſicke, and a baſer place, for Chyrurgi ſuffe.
- xii. That he neither increaſe, nor diminuiſhe the phſicians bill, and keepe it for his owne diſcharge.
- xiii. That he neither buie, nor ſell rotten drugges.
- xiiii. That he peruſe often his wares, that thei corrupt not.
- xv. That he put not in quid pro quo, without aduiſement.
- xvi. That he maie open well a beine, for to helpe the pleuriſſe.
- xvii. That he medle onely in his vocacion.
- xviii. That he delite to reade Nicolaus Myreſſi, Valerius Cordus, Iohannes Placcius & Lubik &c.
- xix. That he doe remember his office, is onely to be the Phſiciſſas Cohe.
- xx. That he be true meaſure and waighe.
- xxi. To remember his ende, and the iudgement of God: and thus I doe commend him to God, if he be not couetous, or craftie ſekyng his owne lucre, before other mennes health, ſuccour, and comfort.

Sickenes.

I ſure you, if the Apothecarie, doe Godly obſerue theſe plaine rules, he can not doe amiffe: but ſhall pleaſe almighty God, profite the common wealthe in his calling. Finally, quiete his conſcience, and lue well. I praie you ſewe vnto me, a little of the waigthes and meaſures, and to make an ende of this parte, whiche is of medicenes.

Health.

If I ſhould ſpeake moche of waighe and meaſure, that I could not well doe, without I ſhould aſſight the learned man Georgius Agricola, de menſuris et ponderibus, whiche maketh the deſtinction of all the meaſures of this worlde, of euery age and people. whiche I doe wiſhe that you doe often tymes reade, and for this preſent tyme, letre this ſuffice for waighe, as foloweth, for this little booke, that is paſſed before.

The waighe of	I pounce.	i.	The waighe of	ſofech pare, ana.
	In ounce.	3.		I quarter.
	I dragma.	3.		I halfe.
	I ſcruple.	3.		I handfull.
	I graine.	6.		

PAGE FROM BULLEIN'S "BULWARKE," CONTAINING TWENTY-ONE RULES FOR APOTHECARIES AND A LIST OF WEIGHTS, WITH SYMBOLS (reduced by two-fifths)

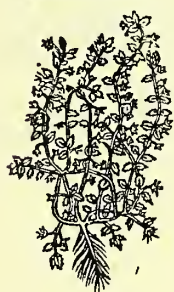
physician's cook is No. 19. Before taking leave of this dispensatory, a few comments may be added. Although, as we have seen, Bullein gives a formula for oxymel of squill, he has none for syrup of squill. Tinctures are absent from the book. "Unguentum Citrinum" is of interest in being partly of chemical and partly of vegetable composition; it contains borax ("which is a kynde of Salte Peter"), camphor, white coral, saltpetre, white marble and white lead, with tragacanth and other vegetable ingredients, and mixed animal fats as the basis. Bullein gives two formulas for aqua vitæ, both of them containing several herbs steeped in wine or ale before distillation. A few paragraphs commence with "Re." for "Recipe," the "e" being cast as part of the "R" and having a short tail. The 1562 and 1579 editions of this book in the British Museum, printed respectively by Jhon Kyngston and Thomas Marshe, have the interesting difference that Marshe does not use the signs for the ounce and the drachm shown in our illustration in this column, but invariably prints them according to modern usage. Another book of Bullein's, printed by Kyngston in 1573, has the modern signs.

Comments in Recorde

WE may now turn to the second part of Recorde's "Urinal of Physick," attributed, as we have mentioned, to an Elizabethan. Much of this is capital reading, almost as topical in the twentieth century as it was in the sixteenth. This section commences rather portentously:—"It is not unknown to many men, and specially to those that bee truly and exactly learned in Physick, that there hath been, is now, yea, and shall be (if some good order be not taken) great abuses among Apothecaries, in handling, keeping, choosing, and dressing their Drugs and Medicines." In the next paragraph we read:—

"The Physitian many times shall ordaine his counsell, and appoint certaine Medicines for his

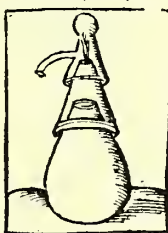
Chicken weede.



Radish.



Two beddes.



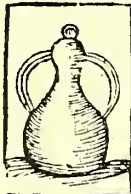
Straberie.



Solamiz & great nightshade



Pelican still.



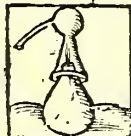
Cherie.



Hyslope.



The little glasse still.



These stills are verie good, to distill, cleane, and rectifie all waters.

q. i.

PAGE FROM BULLEIN'S "BULWARKE"
(reduced by one-third)

Patient; which Medicines he knoweth certainly shall doe him good, being taken and used according to his counsell, yet the same Medicines being taken and bought at the Apothecaries, and made many times of naughty stuffe, or not well prepared, shall not only doe little or no good at all, but shall also sometimes put the sicke body in hazard of his life, whereby shall no small trouble and shame redound unto the Physitian. . . . But you must understand that the Physitian cannot alwaies be present at the making or delivering of such Medicines as he hath appointed. For sometimes he hath mo Patients to look to then one, and perchance he may be twenty or forty miles from the Apothecarie, when he sendeth his Bill to him. . . . The "viewing" of the ingredients is, however, the

ideal to be sought. An example of an alleged dispensing error follows:—

"We had a sad passage of an Apothecary of late years, who being prescribed by a Doctor to make up some Trochises for his Patient of *Gordonius*, not having them ready, used in their room Trochises of *Alhohengi in opio*, which the Patient took, and dyed within a few houres after; whereupon the Widdow of the deceased Patient, instigated by some of her friends, prosecuted the said Apothecary; first for life, and secondly, to prohibite him for further using his trade, with two severall Bills and Inditements at the Kings Bench Bar, before that Learned and Reverend Judge, the then Lord Chief Justice *Brampton*, where with much charge he was acquitted, in both the severall Trials."

Our author is severe in his remarks on apothecaries and even on some physicians:—

"And to be short, I my selfe have seen some Apothecaries take for the root of *Rubia*, the leaves of *Rubus*: for the root of *Mandragora*, the root of *Gentian*: for *Hematites*, *Amethystus*: for *Sempervivum minus*, the Herb called *Thrift*. . . ."

Here I could also somewhat touch some of the learned sort [of physicians] . . .

They see and know many abuses in the Apothecaries' shops, and yet they winke at the matter, and are loath to displease the Apothecary, who perchance is their friend. . . .

Some there be also (lest that other men should learn their cunning) that will rather scribe them a Receipt, and will make such dashes and strange abbreviations in their Bills, that their writing seemeth rather to be Arabicke, or like the writings of the *Cabalists*, then

Latine. I fear me that they that write so are ashamed of their own occupation, and fear lest that if they should write plain, their errors and faults should be espied."

On another page he returns to the relations between physicians and apothecaries:—

"But this Question (if a man might be so bold) I would faine ask how many good Apothecaries be there in *England*? . . . Many there be that disdain that the Physitians should bee present at the making of their Medicines, and who more than the ignorant, covetous, and contentious sort of Apothecaries. The ignorant thinks (following their barbarous *Nicolaus*) that their knowledge which is meer ignorance far excelleth and surmounteth the knowledge of all Physitians. The covetous are afraid, lest if the Physitians should be present that they should find a great deal of their stuffe to be sophisticate, corrupt and naught. There be also another sort of Apothecaries, which be so arrogant & scornfull (by reason that they be grown very rich, God knows how) that they disdain the Physitian, and have him in no estimation, whereas in the ancient time, the Apothecaries (as *Galen* and others wnesse) were but as servants & ministers unto the Physitian."

The Urinal of Physick.

Composed by Mayster
ROBERT RECORDE:
Doctor of Physicke.



Printed at London by Keynde Wolfe.

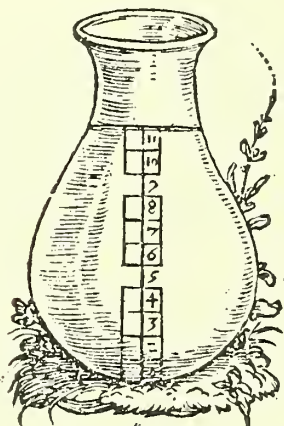
Cum privilegio ad imprimendum solum.

TITLE-PAGE OF RECORDE'S
"URINAL OF PHYSICK," 1548
(slightly reduced)

A personal reminiscence follows, and then we come to the perennial trouble between the prescribing apothecary and the dispensing physician:—

An admonition to the Readers.

Reade all, or leaue all,
So am I perfecte and steddye.
To reade parte and leaue parte,
Ys to plucke & hymmes fro lb. bodie.



LINES ON BACK OF TITLE-PAGE OF RECORDER'S "URINAL OF PHYSICK," WITH GLASS USED IN URINE ESTIMATION

"What maketh many Apothecaries now a dayes to set so little by the Physitians? This is one chief cause, they play the Physitians themselves, they give and Minister Medicines of their own devise (God wot a mad device) indifferently unto all men. . . . Many of them will not stick to looke in waters, and not be ashamed even in the Physitians presence, to ordain this or that Medicine for any kind of disease; If any Physitian do gently admonish them of their fault, and specially of giving of Medicines after their own brain: They will say, that they may as

well prescribe medicines, as Physitians sometimes do use to make them."

The writer goes on to contend that a physician may

But as I haue alwayes sayd, you shall vse them wth the counsell of sum learned Physicion: for there is great difference both of the greeke, & of the medicyns.

Medicyns for the stone, both in the raynes and bladder,

Altra Bacca.	Harebell.
Ameos.	Ancholme roote
Sower Almonds.	and berpes.
Angle roches sodd	Madder roote.
Betony.	Hygh Malowes
Wypony roote.	lede & roote.
Bylgrumme.	Mogwozte.
Chamamell.	Perseley.
Lapers barke, na-	Pellyter of spayn
mely of the roote.	Wypony berpes.
Carret lede.	which ar black
Clotte lede.	Kadyche.
Docke roote.	Sampere.
Fenel: lede, & roote.	S. Johns wozte
Gorps blood.	Sperage.
Sladyan.	Scholme.
Bromell.	Stwynes fenell.
Summe of Plum	Sothernewood
tree, & Cbery tree.	lede.
A hedge Sparow.	Tente woze.

Tutlan

PAGE FROM RECORDER'S "URINAL OF PHYSICK," GIVING LIST OF REMEDIES FOR STONE

"I had almost forgotten one great abuse, that a great many Apothecaries commonly do use, that is, when the Physitian prescribeth any *Losengis* to be

made. The Apothecary will put to the powder as much sugar as pleaseth him . . . it were good that the Physitian should determine and appoint in his Bill, how much sugar hee would have to be put with the powder."

He ends with a quotation from Silvius, setting forth the duties of an apothecary:—

" . . . It is also convenient and necessary for an Apothecarie to know his Grammer, because he may the better understand . . . the daily writings (which commonly they call Receipts or Bills) of the Physitians. In the which writings, if perhaps they have written any thing more or lesse than need is, or more unpleasant then the Apothecarie conjectureth in himself, to be meet and convenient for the pacient, he then may gently tell and warn the Physitian of it."



THE PRICE AND VALUE OF MEDICA- ments as well Simple as com- pounded which are used in PHYSICKE;

By Philbert Guibert Esquire Do-
ctor Regent in the faculty of Phy-
sick in Paris in France.

*The Price of Medicaments Simple as they
are sold as the Druggists.*



Cassia the pound	1. s. d.
A Corus the pound	0 4 2
Agaricke the pound	0 10 0
Aloes the pound	0 18 0
Roche Allum the pound	0 12 0
Bitter Almonds the pound	0 3 0
Sweet Almonds the pound	0 1 0
Amber-greece the dramme	0 0 6
Yellow Amber the pound	0 10 0
Angelica the pound	0 2 6
	0 6 8

PAGE FROM "THE CHARITABLE PHYSITIAN,"
1639 (reduced by one-sixth)

Finally, the apothecary should among other virtues be "contented with a meane apparrell."

"The Charitable Apothecarie"

OUR third principal source of knowledge of apothecaries' wares during the period we have chosen is derived from the English translation of Philbert Guibert's "Le Médecin Charitable" and "L'Apothicaire Charitable," published in London in 1639 under the general title of "The Charitable Physitian." The first forty pages of the book give directions for preparing certain medicines in the household, the price of each being noted in the margin. Then follow lists of instruments and of medicaments "which the rich ought to have in their houses." The instruments include "a set of weights of sixteene ounces in the pound," four

sieves and three mortars. The medicaments number sixty-six items or groups of items; and if the supplies were kept up from time to time, the apothecaries receiving the custom of the head of the house must have

**THE
SECRETES
OF THE REVERENDE
MAISTER ALEXIS OF
PIEMONTE.**

**Containing excellent remedies against
divers diseases, woundes, and other accidents,
with the manner to make distillations,
perfumes, confections, blynges, co-
lours, fuffons and molynges.
A worke well appoynted, be-
ing profitable and ne-
cessary for every
man.**

**Translated out of Frenche into English
by Willyam Warde.**

**Imprynted at London by Iohn Kingstone
for Nicolas Inglande, dwellinge in
Poules churchyarde.**

ANNO. 1558.
14th Novemb.

TITLE-PAGE OF AN ENGLISH
EDITION OF "THE SECRETES
OF . . . ALEXIS," 1558
(reduced by one-third)

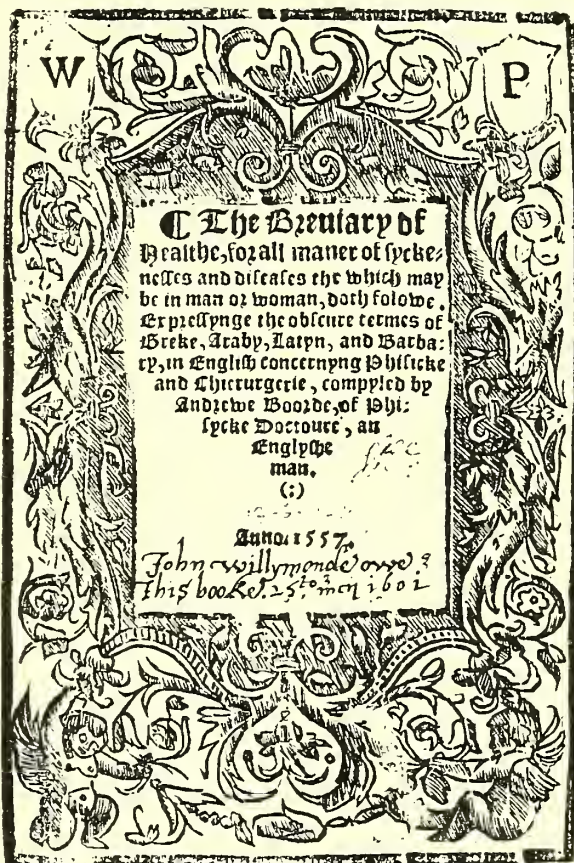
prices ranging from 2d. to 1s. 6d. Rose water was 16d. a pint; cinnamon water 4d. per oz.

"The Charitable Apothecarie," constituting the second section of this volume, comprises four "treatises." Only the first chapter of the first treatise is of present-day interest, the others consisting of directions for making galenicals differing in no important respect from those of contemporary authors. Chapter I is devoted to "A catalogue of all Instruments necessary to furnish an Apothecary." It commences: "First

secured good orders. The list starts, for instance, with "A Pound of good Sene of Levant" and "Foure ounces of good Rubarbe." The tabulated list of "Medicaments Simple," partly given in our illustration on p. 724, is of value, not so much for its record of the actual prices charged as for its disclosure of the stock that the apothecary was supposed to keep; the list, which does not include "roots, hearbs, and other such like," extends to 156 lines. The prices of compounded medicaments follows, commencing with three kinds of syrup of violets, costing respectively 2½d., 2½d., and 2d. per oz. Pills were sold by the "dramme," at

physician—who, of course, was supposed to be capable of undertaking the functions of the apothecary as well as his own. The remainder of the book includes directions for embalming, a dissertation on fruits, and a section on "fumes and perfumes," ending with a recipe for "musked sope." This concluding section has three recipes for pomanders. The first is similar to Bullein's; the second, "against pestilentiall aire," contains camphor; the third, described as laxative, is composed of scammony, myrrh, aloes, esula, colocynth and the "juyce" of coriander. By way of comparison, we may add a formula from "Lingua," a comedy of unknown authorship dating from the year 1607:—

"Take an ounce of the purest garden mould, cleansed and steeped seven days in change of motherless rosewater; then take the best ladanum, benzoine, both storaxes, ambergris, civet, and musk; incorporate them together, and work them into what form you



TITLE-PAGE OF BOORDE'S "THE BREVIARY
OF HEALTH," 1557 (slightly reduced)

please. This, if your breath be not too valiant, will make you smell as sweet as my lady's dog."

Allusions in Contemporary Authors

BOOKS that may have come within the purview of the apothecaries of 1550-1660 fall into two classes. On the one hand are several treatises on health, addressed primarily to the few people who could read and containing recipes likely to find their way to the apothecaries' shops. On the other hand are allusions, often merely by way of local colour, in contemporary books, including printed editions of plays.

The most popular household handbook of medicine in the sixteenth century was probably "The Secretes of the reverende Maister Alexis of Piemont," which first appeared in an English translation in 1558, a year after its issue in Italian and French. In an erudite monograph published in the Proceedings of the Royal Society of Medicine (24, 2, 225), the late Professor

Part of folio from a thirteenth-century MS., giving formula and uses of Michael Scot's Pills

of all; a great Morter of Brasse weighing fifty or sixty pound or more, with a pestle of iron"; this is followed by specifications of two smaller mortars. According to Wright's Dialect Dictionary, the posnet (in this list made of copper) still survives in some Northern counties; but what was the purpose of the shoemaker's knife or that of "a square piece of wood, the thickness of one thumb a foot square"? If the apothecary's stock of utensils was not sufficient, he was referred to the

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John Ferguson gives the titles of sixty-nine editions published between 1557 and 1691. The recipes do not differ materially from those to be found in other books of the period; the headings, however, may be sampled for their quaintness:—

"To make a precious ointment, and of inestimable vertue: the which taken at the mouth, strengtheneth and augmenteth the naturall heate, and radicall humiditie, purifieth the blood, and cleanseth the stomacke from all superfluitie of humors: and by

Thus endeth the letter C. And here foloweth the letter of f.

The. 133. Chapter doth shewe of mans face.



Acies is the latin worde. In greeke it is named *prosopon*. In Englishe it is named a face, the which is the fairest thing that ever God made in the compass of a fote, and it is a wonderfull thyng to behold, consideringe that one face is not lyke another.

The face may haue many impedimentes. The fyrst impediment is to fe a man hauing no berd, and a womā to haue a berd. In the face may be moles, wortes, the mozphwe, ale portes, sauce fleme, dōzette, skurfe (scabbs), pockes, meles, fytyles, cankers, swellinges. For al such matters loe in the Chapitres of the infirmities.

A remedy to mundifie the face.

To clere, to clense, and to mundifie the face, use flusses and bathes, & every morning after becomyng of the head, wype the face with a skaritt cloth, & waſhe not the face oft, but ones a

PART OF PAGE FROM "THE BREVIARY OF HEALTHe" (reduced by one-fourth)

that meane conserueth the health and youth, and prolongeth the life of him that vseth it."

"To heale children of the Lunatike disease, which happeneth unto them by reason of a worme with two heds that breedeth in their bodies, the which worme coming vnto the heart, causes them to have such a passion, that oftentimes it killeth them."

"For one (which with falling from some high place) feareth to haue some things broken in his body." This was olive oil and cress seed; patients who could not drink the oil were allowed wine instead.

"Pylles of master Mychael a Scot. . . ."

Other sections contain numerous recipes for perfumes—oil for scenting the hair, beard, hands or gloves, liquid soap, tooth-powders, tooth-pastes, pomatum, "matches" (balls of scented wax), "a redde colour for the face," depilatories, hair dye, inks, chemical preparations, veterinary medicines, "to make that a woman shall eate of nothing that is set upon the table," "for to see wilde Beastes in a dreame."

The pill of Michael Scot is of sufficient historical importance to demand a brief note. In the new edition of Dr. J. D. Comrie's "History of Scottish Medicine" (vol. I, ch. 3), his career is given at some length; it appears that he was born about the year 1175, died about 1232, and was afterwards mentioned by Dante in his "Inferno" as a soothsayer. A manuscript in the British Museum (Add. MSS. 24068) has a formula for this pill written in the thirteenth century, and thus virtually, if not actually, in the lifetime of Scot himself: a reproduction appears on p. 725. Written in a somewhat faded ink on the opposite side of a folio filled with handwriting still intensely black, the formula is unusually difficult to decipher. We have enlisted the interest of an expert in the study of manuscripts, who has been good enough to send us the following rendering, in full Latin, of the first eight lines:—

"Pillule magistri Michaelis scoti que fere competunt omnibus egritudinibus. et non posset scribe earum bonitas. vnde nolo eas amplius laudare. et ꝑ.
Aloe epaticum optimum. ꝓ.iii. brionie. mirobolonorum. indorum. Kibulorum belloricorum. emblicorum. citrinorum. masticis. dyagridii. azari. rosarum

Reubarbari ana. ꝓ.i. confice cum suc[c]o caulium uel absynthii. Dosis
sit. vii. uel. v. Et iste competunt conuenienti et ydonea dieta obseruata. Et ualent iste pillule contra omnem dolorem capitis. ex quacumque causa. uel ex quocumque humore procedat. purgant mire omnes humores."

The use of five kinds of myrobalans is one of those curious discoveries that greet the explorer among old prescriptions. Unless it has a rival in the pill of Rufus, this must be the oldest pill to which the name of an actual prescriber is attached; and it had so sustained a reputation that the putative Alexis, 300 years later, considered it a medicine to be handed on. The formula of Alexis for "Pylles of master Mychael a Scot" reads thus:—"Take of Aloe washed .iij. scrupules, the rootes of wylde gourdes, of al sortes of *Mirabolanes*, of the confection made with Scammony, called *Diagridion*, Mastic, Bay berries, and Roses, of eche of them halfe a dragme, of Saffron a scruple, Myrrhe half a scruple." This was massed with the juice of colewort.

Andrew Borde's (or Boorde's) "Breviary of Health," first published in 1546, was another treatise that ran into several editions, though in English only. The 1557 edition had a second part, "The Extrauagantes," deal-

Collyrium Album.

Rec. *Cerussæ Ablutæ*, drachmas decem.
Sarcocollæ grossæ, drach. tres.
Amyli, drach. duas.
Tragacanthæ, drach. vnam.
Opii, drachmæ, semissem.

Beate all these well, and incorporate them with cleane rayne water. Then let it be very well wrought on a marble stone, and after make it vp in smalle pelletes, lyke lentilles, whiche at your times of nede, you may temper with the milke of a woman that nourisheth a maide childe, and administer it wpth a fether."

Collyrium de Thüre,

whiche maturateth apostemes of the eyes.

Rec. *Thuris*, drach.x.
Antimonii, } *Singulorum* drach.v.
Sarcocollæ, }
Croci, drach.ii.
Conficiantur cum aqua Fœnugraci, ac fiat Collyrium.

Puluis Citrinus.

Rec. *Sarcocollæ*, drach.x.
Aloes, }
Croci, } ana drachmas.ii.
Lycii, }

PAGE FROM HALL'S TRANSLATION OF LANFRANC'S "CHIRURGIA," 1565

ing, among other subjects, with the treatment of possession by devils. The preface to this part gave a plain hint that the services of the apothecary were of value:—

"And for as muche as I, nor no manne els can wryte so playnely the termes of Phisicke that euery man can perceiue the receptes. Therefore I do aduertise and do counsell all men to consulte with some

expert Potycary in makynge and orderyng of such receptes and medecines."

On a smaller scale was Philip Moore's "The Hope of Health" (1565), which had an introductory commendation by William Bullein.

In the same year appeared John Hall's translation of Lanfranc's "Chirurgia," chiefly remembered for its vigorous protest against charlatans. Sir Thomas Elyot's "The Castell of Helth" had a long vogue in the latter half of the sixteenth century, but was never favoured by the medical profession, Sir Thomas having been a mere diplomatist.

George Baker's translation from Gesner, "The newe Jewell of Health" (1576) is a treatise on the then young art of distillation, and has a particular interest

The newe Jewell of Health, wherein is
contayned the most excellent Secretes of Physicke and Philosophie, deuided into fower Bookes. In the which, are the best approved remedies for the diseases as well inwarde as outwarde, of all the partes of mans bodie : treating very amplye of all Dystillations of Waters, of Oyles, Balnes, Quintessences, with the extraction of artificiall Saltes, the vic and preparation of Antimonie, and potable Gold. Gathered out of the best and most approved Authors, by that excellent Doctor Gesnerus. Also the Pictures, and maner to make the Vessells, Furnaces, and other Instrumentes thereto belonging. Faithfully corrected and published in English, by George Baker, Chirurgian.



Printed at London, by Henrie Denham.

1576.

TITLE-PAGE OF "THE NEWE IEWELL OF HEALTH," 1576 (reduced by one-fourth)

on account of the mention of certain people in London as capable distillers of oils and other medicaments—Mayster Kemech in "Lothburie," Mayster Geffray in the "Crouched friers," John Hester on "Powles Wharfe" and Thomas Hyll (whose address is not given).

"Country Contmentments," by Gervase Markeham, is a genial handbook of household management, first appearing in 1615, the popularity of which may well have resulted in custom for various apothecaries. Numerous recipes for human and animal ailments are to be found in its pages. One of the most remarkable in its properties is "that soueraine water which was first inuented by Doctor Steuens," a distillation from wine in which herbs have been steeped. "With this water Doctor Steuens preserued his owne life vntill such extreame age, that he could neither goe nor ride, and hee continued his life being bed-rid fūe yeeres, when other Physicions did iudge hee could not liue one yeere . . .

and also the Archbishop of Canterbury vsed it, and found such goodnesse in it that he liued till he was not able to drinke of a cup, but sucked his drinke through a hollow pipe of siluer."

Passing references to the business of the apothecary in contemporary books are not, so far as we have been able to trace, very numerous; but a few of these scattered passages, from drama and prose works, may be quoted. One of the briefest is a marginal note in Philemon Holland's translation of Pliny's "Historia Naturalis," published in 1601: it defines "cochleare" as "three drams and a scruple, somewhat under halfe an ounce, as a good spoone wil do with us." Holland was a doctor of medicine as well as an author, and the note is of interest for the light it throws on the accepted equivalents for spoonfuls. In "How a Man May Choose a Good Wife from a Bad" (1602), attributed to Joshua Cooke, one of the characters is made to say:—

" . . . in this paper is

The iuice of mandrake, by a doctor made
To cast a man, whose leg should be cut off,
Into a deep, a cold, and senseless sleep ;
Of such approved operation
That whoso takes it, is for twice twelve hours
Breathless. . . ."

"The City Match," by Jasper Mayne (1639), contains a scene in which we are told that two characters—

"Do verily ascribe the German war
And the late persecutions to curling,
False teeth, and oil of talc."

Jonson, in "The Alchemist," has a different use for the oil:—

"A lady that . . . hath her face decayed
Beyond all cure of paintings, you restore,
With the oil of talc."

"The City Match" has a rather more extended reference to drugs (Act III, Sc. 3):—

"Plotwell. Yes, when there was not fire enough to warm

A mastich-patch t' apply to his wife's temples,
In great extremity of toothache. . . .
Timothy. Yes: then linen

To us was stranger than to Capuchins.
My flesh is of an order with wearing shirts
Made of the sacks that brought o'er cochineal,
Copperas and indigo."

The books of funny stories popular in Elizabethan and Stuart times have a modicum of references of a similar nature. "Merry Conceited Jests of George Peele, Gentleman, sometimes student in Oxford" (? 1607) sets forth that on one occasion Peele, on his way to Oxford, stayed a night at "Wickham." As a result of his boasting, in conversation at the inn, of alleged cures that he had effected, he was asked to visit a consumptive man. Though he knew nothing about medicine, he "set a bold face on it" and was taken to the room where

"the ancient Gentleman lay wonderfull sicke, for all Physicke had giuen him over. George . . . demanded whether they had ever a Garden . . . where when he came, he cut a handful of every flower, herb and blossome or whatsoever else in the Garden, and brought them in the lapid of his cloake, boyled them in Ale, strained them, boyled them againe ; and when he had all the iuyce out of them, of which he made some pottle of drinke, he caused the sick Gentleman to drinke off a maudlin Cupfull, and willed his wife to give him of that same at morning, noone, and night You may suppose George was in haste, vntill he was out of the Gentlewomans house: for he knew not whether he had poysoned the Gentleman or not, which made him so eager to be gone out of the Gentlemans house."

The patient recovered, and George was rewarded. Lastly, "Scogin's Jests," a book the compilation of which has been attributed to Andrew Boorde circa 1565, has a tale regarding an insect powder consisting of "the Powder of a rotten Post," an article destined to an unenviable notoriety in subsequent centuries.

The illustrations in this article are taken from books and manuscripts at the British Museum.



An Arabic Medical Manuscript

Notes on a Thirteenth-Century Illuminated Translation of one of Galen's Works

By Privatdozent Dr. Otto Zekert

THE valuable collection of spoils of war from conquered and occupied countries which Napoleon sent to France in 1809 included an Arabic manuscript which since 1576 had been in the possession of the Imperial Library in Vienna. It was returned to the Austrian Court under the terms of the peace treaty of 1815, but a memento of its six years' exile remains in the form of a round red stamp on two of its pages with the crowned Napoleonic eagle and the inscription "Bibliothèque Impériale."

To-day this manuscript is considered to be one of the most precious possessions of the Austrian National Library, although unfortunately nothing is known concerning its origin or how it was acquired by the former Imperial Library. The manuscript consists of thirty-one sheets, each measuring $32\frac{1}{2}$ cm. by 26 cm., of a particularly soft kind of paper, and the whole is bound in parchment. The titles of the chapters are in gold, black or red characters, the initial letters in red, while the text is in black, fifteen or less lines on each page.

Features of the Text

Following the usage generally adopted at the time from which the manuscript dates, the individual recipes are written either in the form of a circle, a star or a square. It is one of the oldest illustrated Arabic manuscripts in existence, and deals in general terms with the contents of Galen's work "On Electuaries." This Arabic manuscript was prepared early in the thirteenth century, and is apparently based on a translation of the original work made by John the Grammarian, who lived in Alexandria in the sixth century. In the introductory portion the history of theriac is described in detail, giving in chronological order the physicians to whom tradition ascribes having contributed to the elaboration of this antidote, with notes on the improvements introduced by each, either by increasing or reducing the ingredients included in its composition. According to this version no

fewer than nine physicians whose names were still held in high repute in the Middle Ages assisted in perfecting the composition of theriac, which for so many centuries was regarded as a most valuable remedy. The first to be mentioned is Andromachus, who is credited with being the original inventor. Tradition relates, as is depicted in one of the illustrations in this manuscript, that Andromachus discovered the value of the berries of the laurel tree as an antidote to snake bite, an observation which gave him the incentive to the composition of theriac. He is followed by Ibraclides, Pylagoras, Pericles, Pythagoras, Marinos, Andromachus the Younger, Magnes of Mersa, and, finally, by Galen, the original author of the text of this manuscript, in which each of these nine physicians is not only mentioned by name but is also portrayed in one of the illuminated pages. This historical introduction is followed by a computation showing the date of the introduction of theriac, notes on the preparation of other antidotes, with particulars regarding their individual virtues, and a description of the measures and weights used in compounding theriac and the other medicaments. Needless to say, a part of the text is devoted to the subject of snakes, since they constitute the most important ingredient in theriac.

The Illustrations

Turning to a consideration of the illustrations, the illuminated title-page depicts, in the centre, an Arabian prince—possibly the potentate for whom the manuscript was prepared—before whom is a kneeling figure. The latter has been variously interpreted to represent either the author of the manuscript, its Arabic translator, or a physician; if the last-named assumption is correct, the frontispiece would represent the visit of a prince to a physician, and the black cupboard seen in the illustration might be a medicine cupboard, while the vessels on the wall would be containers for stocks of medicines.



طبخه بالماء حتى يثخن ثم يخرج منه من ذلك الماء ويطبخه بالشراب حتى يثخن الشراب بعده
 لعل اذا صار في جدد العسل الحماش ازاله عن النار وذن عليه الادويه وهي سحرته تتحول



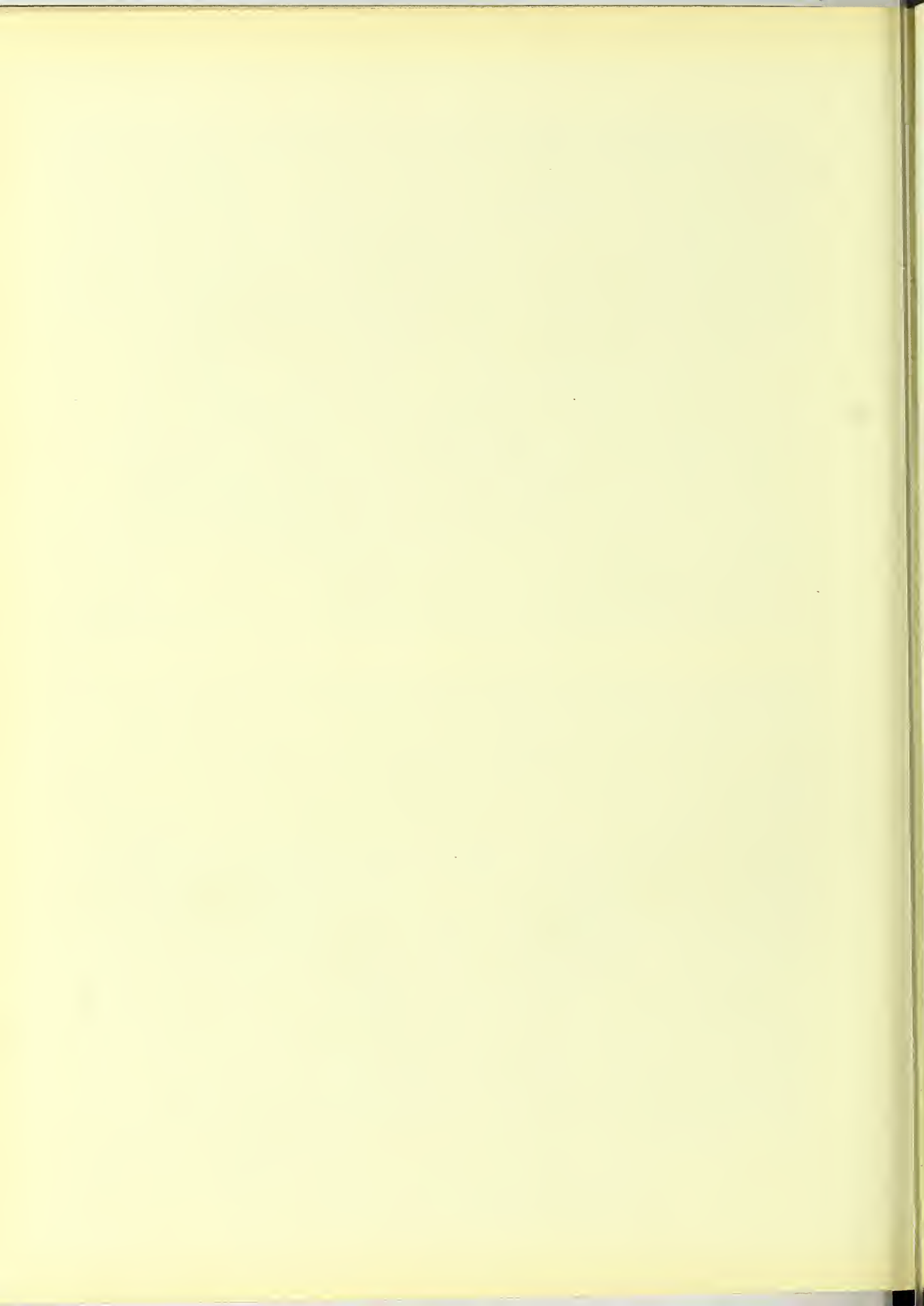
ويضرب ضربا كثر اجتي يعقدونه منه ريم خضره بغيره شرابا فاما كان بعد شهر فحجموا راسي
 منه لجمع ما ذكرنا من شرابا قيل قالوا لا نؤثر بهذا الدبر ياق وقد انت عليه من البسيتين ثلاث ومشرته

فرعوا وكنت لعل لهم معي على الدابة التي تحملا لهما رادا وشربا ليطيبا نفسهم ويخمدون على العمل فانك
 كذا لكالي ان حلت لهم وكنت قد اخرجت لهم ليلا يستوا احضرته شرابا مطين الداس وذا اذا اكلوا
 الزاد وقف دموا الشراب ففتحوا راسه فاذا فيه افعى قد تفرق ونهر فام يد وقوه وقالوا عندنا في هذه



THE PREPARATION OF THERIAC

Illustrations from a XIIIth century Arabian MS. of Galen's Works.



The upper portion of the page shows a hunting scene; the prince and his retinue are mounted and armed with bows and arrows—a wild ass and a hind have been shot. In the lower portion of the page figures of men on horseback appear as well as partly veiled women on camels. The objects held by each of the male figures in the four side panels have not all been identified; however, it is apparent that of the upper four figures one holds a lance, one a falcon, one a swimming bird and another a drinking glass. The next illustration is a representation of the nine famous physicians who participated in the elaboration of theriac until it assumed its final "galenical" composition; the figures are grouped in three rows, in the chronological order outlined above.

The discovery by Andromachus of the healing power of laurel berries in snake bite, of which mention has been made, is depicted by Andromachus, seated on a caparisoned horse, approaching a boy who has been bitten by a snake in the left foot.

The boy kills the snake and eats the berries of the laurel tree. This observation is utilised by Andromachus as the basis of his discovery of theriac. Another illustration shows Pylagoras making use of black pepper, squill, laurel, gentian, myrrh, saffron, honey, Arabian costus, oil of myrobalans and oil of cinnamon in the preparation. Several illuminations are

devoted to representations of snakes of various shapes and colours; one shows the method of catching these reptiles by the aid of dolls. According to one version these dolls were made of sheep skins; the snake was caught by means of an instrument shaped like a pair of pincers while in the act of biting one of these figures. On one of the pages the story of the discovery of the

effect of the snake itself as an antidote to poison is illustrated. A snake, it is shown, fell into a vessel full of wine and was drowned. This snake-poisoned wine was given to a moribund patient to make death easier; but after drinking it he recovered instead of dying. This was the reason for including snake flesh in the composition of theriac, a custom which was maintained for a long period. The illustration to this anecdote is reproduced in the lower picture on the accompanying colour plate, while that above shows the preparation of a medicament by the aid of heat, under the direction of one of

nine physicians mentioned and portrayed in the manuscript. The reproductions in this issue from this precious document were specially made for THE CHEMIST AND DRUGGIST by the courtesy of the Director-General of the Austrian National Library in Vienna; those for the colour plate were prepared by Herr Hans Makart.



Births

Notices for insertion in this column must be properly authenticated.

THOMAS.—On June 16, Daisy, the wife of Brinley R. Thomas, M.P.S., The Lake Pharmacy, Henleaze, Bristol, of a son.

Marriages

DYER—DOORAKKERS.—At the Church of English Martyrs, Sparkhill, Birmingham, recently, Robert Stanley Dyer, chemist and druggist, to Mary Doorackers.

UTTLEY—PARKINSON.—At the Parish Church, Rotherham, on June 12, Wilfred Uttley, chemist and druggist, only surviving son of the late Mr. J. R. S. Uttley, chemist and druggist, Rotherham, to Beatrice Helen Parkinson.

Deaths

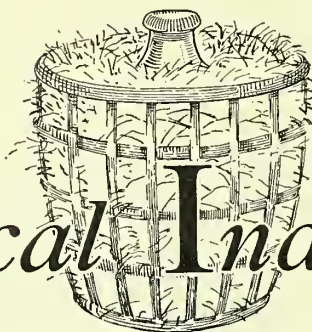
NICHOLSON.—Recently, Mr. Gilbert Nicholson, chemist and druggist, The Pantiles, Tunbridge Wells, aged sixty-seven. Mr. Nicholson was a son of the late Mr. Alfred Nicholson, chemist and druggist, to whose old-established pharmacy he succeeded in 1905.

Personalities

MR. JOHN T. MOUNTAIN, Ph.C., Bicester, has been elected secretary of the local rifle club.

MR. E. H. KIDGER, Australian manager of Menley & James, Ltd., is again in this country for a holiday. We understand that Mr. Kidger intends to remain in London until the middle of July. He may be addressed till then at 64 Hatton Garden, E.C.1.

LEEDS Pharmaceutical Industry



Impressions gathered by a "C. & D." representative during
the course of a recent visit

VISITORS to this year's meeting of the British Pharmaceutical Conference will find themselves in "a city of a hundred industries," not the least important of which are those connected, directly or indirectly, with the service of pharmacy. Leeds, as students of pharmaceutical affairs are aware, is a stronghold where men (and women) make a special endeavour for the ultimate good of the craft. It was with more than ordinary interest, therefore, that a representative of THE CHEMIST AND DRUGGIST set out to explore what, for want of a better term, may be described as "the wholesale side," and to record his impressions. At the outset it may be mentioned that courtesy and hospitality abounded, and every facility necessary for the compilation of this article was readily granted. The matter following has been arranged in sections, each section dealing with a different aspect of the industry.

MANUFACTURING CHEMISTS

Under this heading are described, in alphabetical order, several houses whose names are everyday words in the drug trade. These are followed by particulars of makers of well-known proprietary articles, a branch of the industry which is well represented in Leeds. The first house, then, to be described is that of

W. B. Cartwright, Ltd.,

which is situated in a delightful spot at Rawdon, some seven miles from Leeds. Here the C. & D. representative was cordially welcomed by Mr. J. Rennie, M.P.S., the managing director, who personally conducted him on a tour of inspection. The most striking features of Messrs. Cartwright's works are undoubtedly the brightness and cleanliness of the workrooms, and the air of efficiency which seems to permeate the staff. It was obvious that business was being done, and done speedily and well. The business was first incorporated in 1908, and since its inception has made noteworthy progress, extending and increasing its scope and activities, until from quite a small beginning it has grown into an enterprise of considerable pharmaceutical importance.

The company moved out to Rawdon in 1912, and the factory and warehouses now cover some 5,000 square yards, and the employees number over 200. The factory is equipped with an extensive modern plant for the manufacture of tablets, pills, galenicals, pharmaceuticals, toilet specialities and perfumery. After viewing the offices, where up-to-date equipment makes for speed and accuracy, the visitor is conducted to the packing room. This department is the largest section of the works and has the advantage of bright north light, giving ideal working conditions. Wherever possible packing is done by mechanical means, the latest type of machines being

used. These include tablet counting and packing machines, powder filling machines, carton wrapping machines, and several others. A section of the packing room is devoted to packing "wets," and is equipped with plant for filling liquids, face powders, etc. Three storage tanks for olive oil, each holding from 120-140 gallons, are also situated in this department. The next section is that devoted to the manufacture of tablets, and as this process is a speciality of the business, the plant is one of the most efficient of its kind. The battery of tablet machines at Rawdon is working practically continuously. Pill and tablet coating is done by means of nine huge coaters. The plant includes also an efficient bottle cleansing machine, drying chambers with hot-air draughts, an automatic still for distilled water and mixers for ointments and tooth-pastes. The whole of the operations of the factory are controlled by analytical means, the laboratory being in charge of Mr. A. N. Bryan. Sampling and analysis is a continuous job, and the laboratory is well equipped for the purpose. The warehouses and stores are separate buildings in the grounds, and are well and orderly arranged. Careful records of the stock are kept when goods are being received or despatched, and landing platforms facilitate the loading.

Perfumery compounding is conducted in a special section of the works, and the mixing room contains some hundreds of essential oils and synthetics. Since the last visit of THE CHEMIST AND DRUGGIST to Rawdon, the most impressive change is the great extension in the manufacture of toilet articles and perfumery. This section occupies a very large area of the factory, and is undoubtedly now a very important part of the Cartwright business.

One of the largest and most interesting businesses in Leeds and district is that of

Goodall, Backhouse & Co.,

and an early opportunity was taken of visiting the extensive premises of this well-known house. From the offices and warehouses in White Horse Street (which have some 70,000 sq. ft. of floor space) to the works in Sovereign Street (floor area 113,000 sq. ft.) is but a short distance, and at the works the C. & D. representative was cordially received by the chief chemist, Mr. J. F. Simon, Ph.C., who personally conducted him on a tour of inspection.

A start was made at the analytical laboratories, where modern equipment, capable of dealing with the multifarious duties imposed upon it by reason of the comprehensiveness of the business, is installed. Then to the still room where the plant includes stills for spirit of nitrous ether, spirit of sal volatile and two—in duplicate—for the large-scale production of distilled water. At

this point were noticed also several stainless steel emulsifiers, a Hunter emulsifier and Wilkinson ointment mills. In the next room an ointment mill of unusual design—it was specially made—was seen; this mill whisks, whirls and scrapes at one operation and is steam jacketed, it being possible also to use the steam jacket as a cold-water jacket. This particular mill deals with some 700 lb. of ointment at a time. Another mill of unusual interest is that used for making cataplasma kaolini—in this case in 600-lb. batches. On the other side of this department may be seen stocks of syrups, e.g., syrup of senna, chemical food and syrup of squills, all made in surprisingly large quantities. Indeed, surprise is the commonest of the visitor's reactions during a tour of these works, whether it be on account of equipment, bulk of stocks, or the company's resources; and when it is remembered that this large and efficient organisation is controlled by a sole proprietor (Mr. W. Powell Bowman), surprise becomes coupled with admiration. It is worth mention that the company give employment to over 300 persons; are particularly generous in periods of sickness, and have at present twenty-six pensioners.

Continuing the tour the visitor is next conducted to the grinding department where four large mills may be seen in operation. One of the illustrations shows the mills with their protective casings open so that the huge rollers may be clearly seen. During the visit of the C. & D. representative the mills were grinding curry powder, liquorice powder and mixed spice. Every batch, it was explained, is controlled by analysis. Here, too, may be seen five disintegrators working on drugs such as cascara, liquorice and pepper. The house is particularly proud of its pepper (and indeed of all its spice products), and a sample examined showed a high degree of fineness and an excellent colour; five different kinds of pepper are prepared. On the floor above—in the crude drug storerooms—the element of surprise is once again manifest on account of the bulk of the stock and the wide range covered. In fact, the company claims to hold one of the largest stocks of crude drugs outside London. Walking through the storeroom, the visitor sees, among the original packages, such familiar names as pimento, capsicum, cloves, sarsaparilla, curcuma, senega, fenugreek and squills, to mention only a few. On a second drug floor, reached by lift, the stocks included five tons of liquorice, ten tons of cassia and eight tons of senna leaves. On the same floor the interesting process of making fruit jelly may be observed. The equipment consists of pans of pure block tin, water-jacketed trays and jelly cutting machines.

The next department is reminiscent of a busy engineering shop, and huge hydraulic punches and other machinery may be seen (and heard) turning out tins of many descriptions. Near the tin-box plant is the room devoted to the filling of waterglass—of which the company have a large output. The waterglass is filled from barrels, the product being first warmed. The section handling the preparation of effervescent products was the next on the list, and here it was explained that some sixty tons of health salt is turned out every year, besides large quantities of citrate of magnesia and other similar lines. The department is equipped with an efficient drying house, which at the time of the visit, was drying a large batch of magnesium sulphate. The production of tablets is a special feature of the Sovereign Street works, and batteries of punches may be seen turning out tablets in a very wide range.

One of the most important of Messrs. Goodall's lines is the well-known Yorkshire Relish and, although this cannot be classed as a pharmaceutical product, the method of its preparation is such as to justify a brief description in this article. The processes involved are pharmaceutical, and include maceration, decoction, pressure, and finally mixing in large vats. Yorkshire Relish is made in two forms, the "thin" variety being originally prepared in 1860, and the "thick," a recent introduction. Manufacture of both varieties is carried out in rooms noteworthy for their spotless cleanliness, and bottling, capping and labelling are done by the latest mechanical means.

Before leaving Sovereign Street mention should be made of the up-to-date fleet of motor vehicles, including

lorries, "runabouts," private cars, etc., and the well-equipped joiners' and engineers' shops.

The offices and warehouses at White Horse Street comprise six spacious floors and a basement. Of particular interest are the stained glass windows on the ground floor showing what was described as a "potted" history of drugs. A special room is set aside for the use of customers. A walk through the departments showed such interesting operations as powder packing, spice packing, liquid packing, filling essences, malt and oil, etc. The "wet" room, patent floor, D.D.A. room (in charge of two qualified chemists) and "dry" room were among others visited. The patent department is interesting on account of the claim made by the company that they hold the largest stock of patents in Yorkshire. Finally, a visit was paid to the advertising department—not the least important link in this efficient chain.

Conference visitors who may feel disposed to call at the premises of Leeds manufacturers will find the new works of

Hirst, Brooke & Hirst, Ltd.,

situated conveniently near the centre of the city—a good example of modernity in factory design. The business, however, is an old-established one, dating back to 1821, when Thomas Brooke and Harriet Hirst first traded at 175 Briggate, Leeds, under the name of Harriet Hirst; and in 1841 Thomas Brooke and Benjamin Hirst, son of Harriet Hirst, founded the firm of Hirst & Brooke, in Bishopsgate Street, Leeds. A Mr. Tomlinson was taken into partnership in 1864 and the firm was named Hirst, Brooke & Tomlinson, the business being removed to Aire Street in 1866. On that date James Audus Hirst was taken into partnership and Mr. Tomlinson retired. The firm was then called Hirst, Brooke & Hirst. Mr. Benjamin Hirst became a partner in 1874, and in 1881 the firm moved into Millgarth Mills, near the City Market, Leeds. In 1893 the firm was made into a limited company with the name Hirst, Brooke & Hirst, Ltd., and on the date of the conversion into a limited company the directors were Benjamin Hirst, Edward Audus Hirst, G. Ward, J. T. Robinson and H. H. Smith. Of those above named Colonel Edward Audus Hirst alone survives, and is the present chairman. Mr. Harold M. Read was made a director in 1910 and Mr. Robinson and Mr. Smith retired. Mr. Harold G. T. Read and Mr. C. E. Clarke became directors in 1926, and in 1927 Mr. Geoffrey Audus Nicholson Hirst became a director. The present directors are Colonel E. A. Hirst, C.M.G., T.D., Mr. Geoffrey A. N. Hirst, Mr. H. G. T. Read, Mr. C. E. Clark and Mr. H. H. Featherstone. The history of the company shows a steady growth in reputation and trading activities, until to-day Hirst, Brooke & Hirst, Ltd., are in the front rank of Leeds manufacturers.

Sheepscar Works, erected by Leeds builders, to the specification of a Leeds architect, stand on an island site, and have a dignified frontage of Portland stone. A recent tour of the premises commenced at the loading yard, where goods are received and despatched. Congestion at this important point has been eliminated by means of an arrangement of "bays" whereby a large number of vans can be accommodated. A maximum working speed is assured by constructing the dock level to the most convenient height. On the opposite side of the yard provision is made for the storage of acids and inflammable liquids. Entering the spacious warehouse the visitor is impressed by the large and varied stock of crude drugs, chemicals and other goods, neatly stored so that traffic may proceed through the warehouse without impediment; this is a point frequently overlooked. In this department, and throughout the works, the temperature is regulated by an automatic system of control, and in addition to the ordinary heating there are warm air-generators at various points. Another interesting feature is the ingenious system of signals—coloured lights working in conjunction with a buzzer—installed throughout the factory. A demonstration showed that the offices can communicate immediately with a principal in any part of the factory; the convenience of this arrangement is obvious.

The manufacturing and analytical laboratories are situated near the warehouse, and here is found plant of the latest type for the large-scale manufacture of chemical and galenical preparations. A special laboratory is used for the manufacture of toilet goods, and the analytical laboratory is also, of course, entirely separate from the others. A further laboratory is being equipped to deal with a special preparation. Close to the laboratories and warehouse is the paint and colour department—an unusual side-line for a modern manufacturing chemist. The manufacture of paint, however, is a tradition of the company, and is still carried on. Adjoining the crude drug store are the drug mills with grinding machinery, mechanical sieves, and other appliances. During the time of the *C. & D.* representative's visit three mills were grinding crude drugs, and one—a ball mill—was working on vermilion. The manufacture of pills and tablets is carried on in a specially equipped department on this side of the works. In the packing room use is made of the latest equipment, including vacuum fillers for liquids and automatic fillers for dry materials, in both cases working by electrical power. The sundries department has the convenience of adequate gangways between the fixtures, a feature making for easy and speedy working.

A description of Sheepscar Works would be incomplete without mention of the up-to-date showroom where retail customers can see the company's products displayed to the best advantage. The showroom is spacious and well furnished, while the showcases, in walnut with chromium-plated fittings and glass shelves, form an appropriate background for the goods. An interesting feature is the model shop window which is frequently re-dressed, and which is of considerable assistance to retail customers.

Two other departments of great importance in the successful running of a modern factory are the offices and the printing department. In the former efficiency is assured by the use of a mechanised system, while in the latter up-to-date machinery turns out price lists, showcards, labels, postcards and a great variety of stationery. The printing department produces also colour work. In the cellars at Sheepscar Works may be seen stocks of solids and liquids, including an enormous quantity of wines, in which the company does a large trade. In these days of quick delivery services it is essential for the manufacturer to maintain an adequate delivery fleet, and this the company do, housing their cars and vans in a large garage attached to the works.

The next business to be visited was one rich in historical associations but thoroughly modern in its business and manufacturing methods.

Reynolds & Branson, Ltd.,

13 Briggate, was founded in 1816, by Mr. William West, a member of the Society of Friends, born at Wandsworth in 1792. Twenty-five years later Mr. West gave up pharmacy in order to devote himself to analytical chemistry, and eventually became a Fellow of the Royal Society. He was also a founder of the Leeds Philosophical Society, to which he contributed numerous papers on scientific and general subjects, and lecturer in chemistry for a number of years to the Leeds School of Medicine. In 1841 he became one of the original members of the newly founded Royal Society of Chemistry. The business was taken over by Mr. Thomas Harvey on Mr. West's retirement, and Mr. Richard Reynolds, Ph.C., joined as a partner in 1854. Later, Messrs. F. W. Branson, F.I.C., Ph.C., and R. F. Reynolds, Ph.C., became partners. Mr. R. F. Reynolds has another claim to remembrance by reason of his brilliant cartoons in *THE CHEMIST AND DRUGGIST*, extending from 1883 to 1907. Mr. Thomas Harvey died in 1883. A limited company was formed in 1898 with Mr. R. Reynolds (died 1900), Mr. F. W. Branson, and Mr. R. F. Reynolds (died 1907) as directors. Mr. F. W. Branson retired from the board in 1932 and died the following year. The present directors are Messrs. F. H. Branson, A.I.C. (chairman), F. Islip, J. H. Gough, Ph.C., and A. A. Ralph.

The pharmacy at 13 Briggate had existed practically

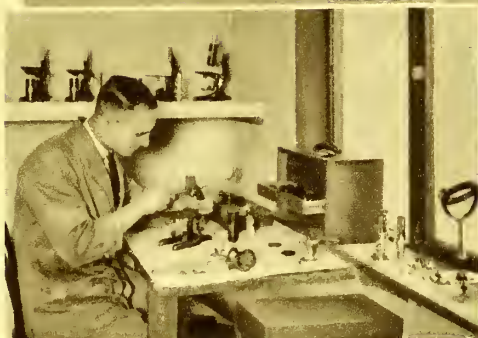
without alteration for a long period prior to 1868, with laboratories and pharmaceutical works adjoining in Commercial Court and Wormald's Yard. In 1868 a site was purchased at 14 Commercial Street and a handsome pharmacy was constructed on it. The premises at 14 Commercial Street are now used as a pharmacy and for the optical and photographic departments. They are built in Byzantine Gothic style after the design of the late George Corson. Some features of the building are worthy of note. The stone used came from Harehills, Leeds, except for the vousoirs of the arches, alternate stones of which being of a rich red freestone from Lochar Briggs quarries, near Dumfries. At the junction of the string courses over the arches the Leeds Owl figures as an ornamental detail. The shafts and piers of the ground floor are of red and blue Aberdeen granite. It will be interesting to pharmacists to examine the capitals of these shafts and piers, which are admirably carved to represent medicinal plants, viz.:—Capitals on western side of building, foxglove, henbane; west central capitals, aconite, dandelion, aconite, male fern; east central capitals, jalap, colchicum, poppy, colchicum; capitals on eastern side of building, stramonium, squinting cucumber. During recent years extensions have also been made at the rear of 12, 13 and 14 Briggate. This area extends to a depth of 120 yards, and comprises manufacturing laboratories, pill and tablet rooms, surgical instrument-making department with showrooms, aerated water factory, wholesale despatch warehouse, sterilising and first-aid departments, etc. Steam power is available in the various works, but electricity is chiefly used.

In 1929 the aerated water section of the business was formed into a subsidiary limited company under the title of Phosferrade (R. & B.), Ltd., which has just concluded a most satisfactory year's trading. Reynolds & Branson took up the science of Röntgen rays for treatment and diagnosis in its infancy and are mentioned as pioneers in a biography of Professor Röntgen by Otto Glasson published in 1934. In this treatise illustrations are shown of the earliest advertisements of Reynolds & Branson for *x-ray* apparatus, amongst them being those of complete portable *x-ray* sets and the earliest measuring devices. These are cited as being the first English advertisements of Röntgen rays in 1896.

A tour of the premises at Briggate commenced with the electro-medical section, where such interesting apparatus as surgical diathermy machines may be examined. The company covers practically the whole of the north country in the installation and maintenance of *x-ray* equipment. At 13 Briggate there is also a well-equipped laboratory where special dilutions of any standard vaccine can be made. This laboratory is licensed by the Ministry of Health. Then to the section devoted to hospital and invalid furniture, where a full selection may be seen. A large part of the company's surgical business is devoted to the supply of orthopaedic fittings. In the machine shop the *C. & D.* representative was interested to watch skilled mechanics carrying out the manufacture of scientific and surgical instruments, microscopes, etc. Among the very interesting operations observed were the making of a simple apparatus for the instantaneous production of steam and the manufacture of automatic humidity control apparatus (which operates by the effect of atmospheric humidity on a strand of human hair). The cabinet makers' shop is complete, and the *C. & D.* representative was able to see an *x-ray* set in course of construction. Other important departments include those devoted to pill and tablet manufacture, drug warehouse, steam laboratories, disintegrators, grinding plant, cellars, bottle washing department, printing shop and stores. Before leaving, several of the company's scientific instruments were examined, including a beautifully constructed potentiometer made at Briggate, and a balance (for use in schools) which is successfully competing with similar products previously imported. The aerated water factory is well worth a mention, and inspection showed it to be well equipped, spotlessly clean and working to capacity. In conclusion it may be stated that the business of Reynolds & Branson, Ltd., is well worth a visit if only on account of the truly comprehensive field which it covers.

A CAMERA TOUR

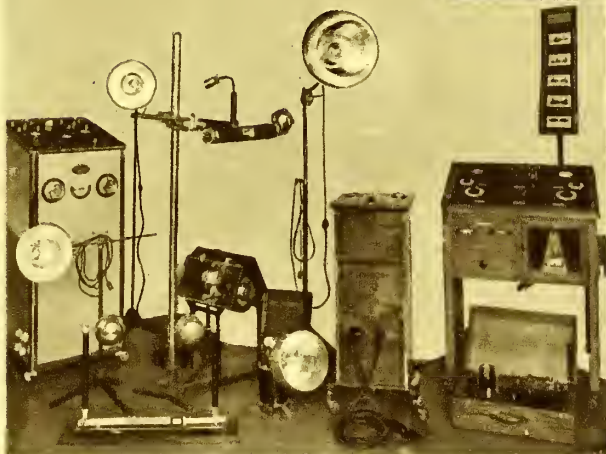
*of the Leeds
Pharmaceutical Industry*



Constructing a microscope



A busy scene in the scientific
instrument works



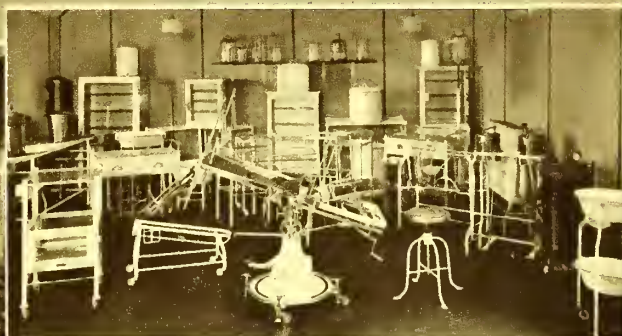
Seen in the electro-medical and
X-ray department



A corner of the manufacturing
laboratory



Surgical instrument
showroom



Hospital furniture room

REYNOLDS & BRANSON, Ltd.



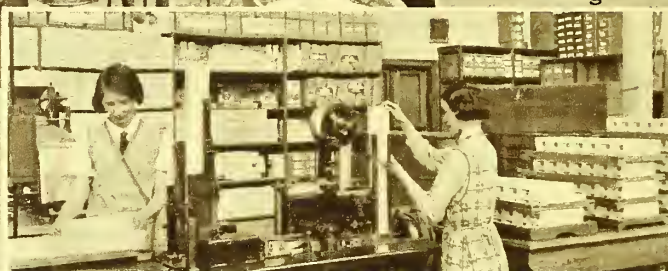
A bottle or jar labelling machine



A vacuum powder filling machine



A corner of the toilet manufacturing department



Right—A machine for wrapping cartons in moisture-proof paper



Each of these machines will produce 1 ton of tablets per day

W. B. CARTWRIGHT, Ltd.
RAWDON



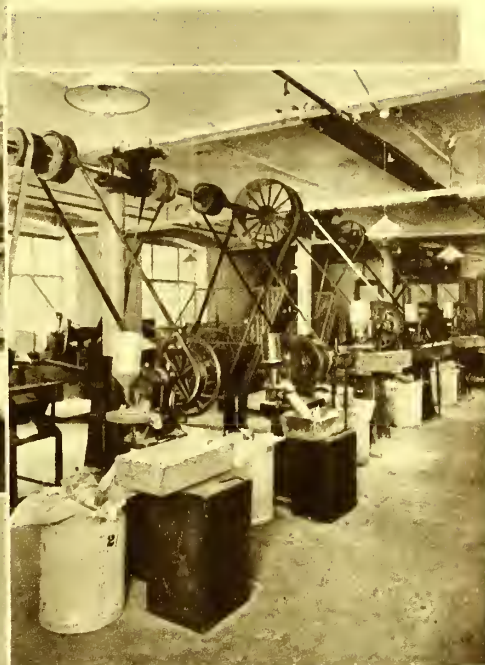
Tablet-counting machines



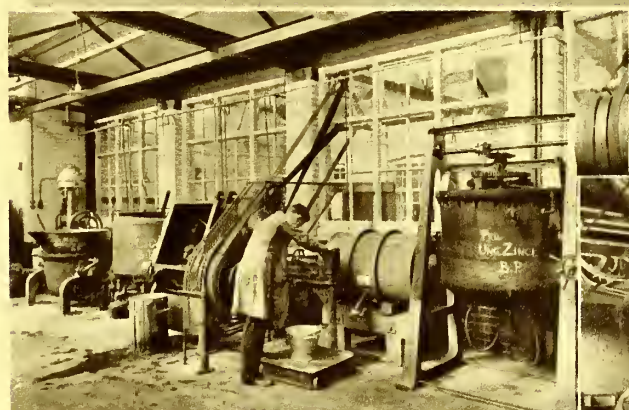
Large coating pans for tablets



Laboratory



Tablet-making plant



Part of galenical laboratory



Drug mills



Tablet and pill making



Manufacturing and packing

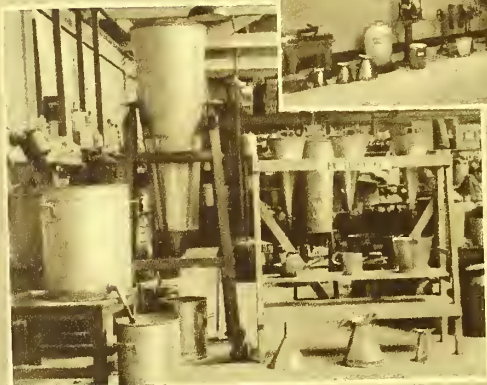
GOODALL, BACKHOUSE
& Co.



A
spacious
labora-
tory



Enormous stocks of wines



Part of the galenical laboratory



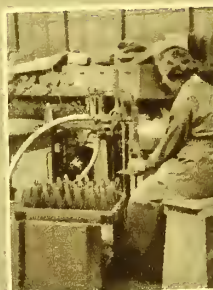
One of the
disintegrators



A grinding mill



Filling powders
by machine



Machine liquid
filling



One of the
tablet punches



The printing
department



The attractive
showrooms

The loading yard
and—



—some of the
delivery cars

HIRST, BROOKE & HIRST, Ltd.



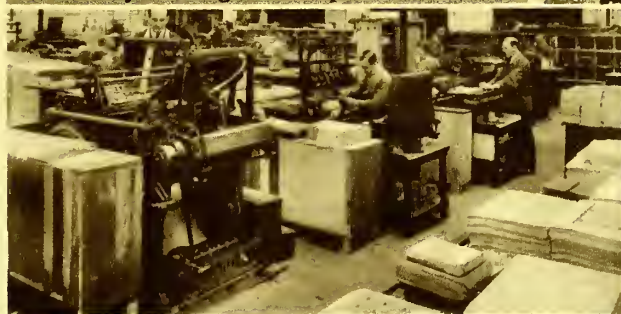
General Office



Artists' Room



A battery of large Letterpress Machines



Another corner of the Letterpress Dept.



Composing Room



Small Letterpress Machines



Lithographic Machines



Carton Room

THE NEW
PRINTING WORKS OF
THOMAS WAIDE & SONS, Ltd.



The printing works of ALF HARRISON & SONS, Ltd.



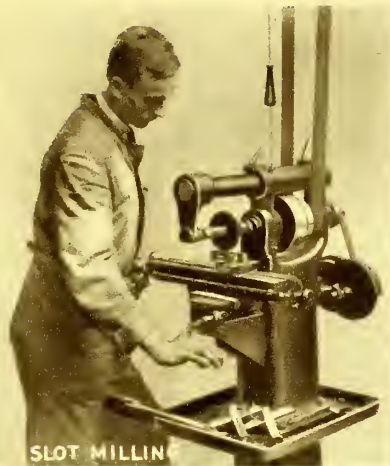
W. A. WHARRAM, Ltd. In the pan room



W. A. WHARRAM, Ltd.



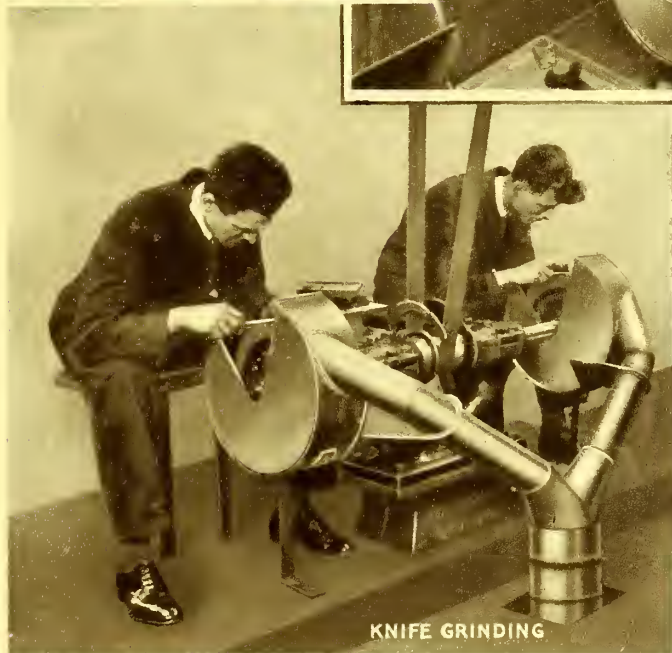
TAYLORS DRUG Co., Ltd. A view in the Burley Hill Works



SLOT MILLING



INSTRUMENT REPAIRS



KNIFE GRINDING



SCREW MAKING



POLISHING



SERRATION MILLING

CHAS. F. THACKRAY



Ashfield—Offices, Showrooms,
Patent and Photographic Department

Below—Some of the Steam Pans
and 80-gallon Perculators



Below—More crude drugs
in the new warehouse



Part of the
crude drug stock



Below—Some of the
Tablet Machines



One end of
the dry room

BROOK, PARKER & Co., Ltd.
BRADFORD



Many wholesale businesses in the drug trade commenced their activities on the retail side. Such a business is that of

W. A. Wharram, Ltd.,

27 Eastgate. Mr. W. A. Wharram, about forty years ago, commenced business at St. Paul's Street and later moved to Vicar Lane. About thirteen years ago the business was removed to 27 Eastgate, and in 1932, when a new road was constructed, the present imposing premises were built. The company specialise in medical lines, such as pills, tablets, concentrated mixtures, surgical instruments, surgical sundries, etc. A glance through the list of Messrs. Wharram's concentrated mixtures shows some really fine formulas, and their special preparations cover a wide range. The brick-built premises are light and airy; a tour of inspection showed a "wet" room, a well-equipped and tidy pan room, spirit store, D.D.A. room, stores and other departments usual in an up-to-date works.

PROPRIETARY MANUFACTURERS

Several well-known proprietary articles are manufactured at the premises next visited.

C. E. Fulford, Ltd.,

Carlton Hill, Leeds, are the proprietors of such important products as Ven-Yusa, Ker-nak, Peps, Zam-Buk, Bile Beans and Fulford powder. Space does not permit of a detailed history of each of these lines; they are well known to pharmacists and firmly established in public favour. The extent of the company's activities may be gauged from the fact that branches and depots are maintained throughout the world, e.g., Australia, Canada, South Africa, Tasmania, New Zealand and India. The company's products are well advertised.

For over a century Hobson's black or spruce beer has been well known and widely sold. This preparation is made at the brewery of

Joseph Hobson & Son, Ltd.,

Regent Street, Leeds, where exceptional care is taken to ensure its purity and high standard of quality. Black beer is, of course, a good seller during winter months, but Messrs. Joseph Hobson state that there is now a good demand throughout the whole year. No licence is required for the sale of the preparation. The company manufactures also wines, cordials, liqueurs, squashes, and proprietaries including the following:—Danzovin tonic wine, Friar tonic wines and Friar British wines; Vintegg, claimed to be the original egg wine, and wine cocktails.

The next business to be visited was an interesting one for two reasons; first, because in about a year's time it will reach its centenary, and secondly it uses a very familiar trade mark. The business of

Hobson, Trimble & Co., Ltd.,

9-11 Union Street, Leeds, was founded in 1835 by John Hobson, who was succeeded by his son, James M. Hobson. Later, a Mr. John Trimble joined the firm, subsequently marrying the only daughter of John Hobson, and becoming a partner about 1870. The name then became Hobson & Trimble, and later Hobson, Trimble & Co.; a private limited company was registered in 1912. The company's well-known trade mark "Hobson's Choice" was a fortunate selection, being already embodied in the language as synonymous to compulsion in making any selection. The supposed origin of the phrase is well known, and its commercial value is obvious. The department of the business of most interest to chemists is that concerned with feet specialities, introduced in 1885. Mr. John Trimble, who conducted this department, died in 1929, aged seventy-eight. The company maintains warehouses at Nelson Street and a branch at Game Row, Kirkgate Market.

In the north of England particularly, Perry's children's powders are well known to the public.

Perry's Powders, Ltd.,

was established as long ago as 1863, and when it is considered that their reputation has been built upon this one line, it is significant that the product well merits public favour. From very small beginnings the business grew, until in 1895 it was incorporated as a public company, and remains so to this day.

The company's registered trade mark, in the form of an open pair of scissors, almost tells its own story, and in many districts Perry's powders are known by the name of "scissors powders."

At the Lovington Laboratories, Benson Street,

J. F. White & Co.,

carry on a business founded over eighty years ago by the late Dr. J. F. White at 17 Vicar Lane. The company's best-known product is Kompo for Colds, which had been made and sold for many years as Dr. White's Composition Essence, achieving a considerable reputation throughout the West Riding of Yorkshire. The name "Kompo" was registered in 1885. Other lines produced by the company include Wild Cherry Balsam, Lobelia Syrup and Cheroline. The business is at present being carried on under the direction of Mr. J. F. White, chemist and druggist, grandson of the founder. At the premises at Benson Street modern plant for mixing, filling, labelling and packing has been recently installed.

DRUGGISTS' SUNDRIES

The druggists' sundries business of

Thomas Swales

is situated at 89 Allison Street, Leeds. The business was founded by Mr. Thomas Swales in 1903, after he had represented a firm in the same line for twenty years previously. The territory covered extends from Newcastle-on-Tyne to Sheffield, and from Hull to Liverpool. Mr. F. Howard Swales, son of the proprietor, has represented the business in the North of England for the past thirteen years, and Mr. W. C. Todd, who has been with the business since its inception, covers the West Riding. Mr. Swales, at sixty-seven years of age, still travels regularly from Liverpool to Hull, and has been "on the road" continuously for the past forty-eight years. The premises are situated in the heart of Leeds, and are easy of access to customers from town or country. Besides general sundries, Mr. Swales specialises in dispensing bottles, feeding bottles, soothers, sponges and hot-water bottles.

CHEMISTS' PRINTERS

The printing requirements of chemists is a business in which two well-known Leeds houses have long specialised.

Alf Harrison & Sons, Ltd.,

Burley Road, was founded in 1878 by Alfred Harrison, who, in partnership, leased some small premises in South Leeds, and commenced business as a commercial printer. He soon realised, however, the particular needs of the chemist, and specialised in printing for the requirements of both wholesale and retail. The earlier premises soon proved inadequate, and a larger works was built at Burley Road, the present headquarters of the company. Recently the whole frontage was rebuilt and a second floor added to the front portion of the building in order to give better accommodation for administrative work. The printing plant is contained on one floor only, and work is carried out under ideal conditions.

The departments at Burley Road include the composing section, the machinery department, the folding-box department, and the printed carton and other sections. The composing department, it is interesting to

note, has been entirely reorganised, allowing for a much greater output of work. In fact, the plant generally has been considerably speeded up to cope with greatly increased business and to give a better delivery service. The making of envelopes is another important branch of work with Messrs. Harrison. Envelopes, skillets, etc., are made by hand and by mechanical means; shampoo envelopes are turned out in large quantities by machinery. Other departments include the guillotine and folding department and storage section.

The company has recently installed several new machines including the following:—Dawson Payne and Elliott machines with speeds up to 3,100 per hour, automatically fed and fitted with own motor; Cundall folding machines, models C and W. (model C will parallel fold at any speed, while model W will fold at 3,800 per hour and cut up six or eight in one operation, making a total of from 20,000 to 30,000 per hour). During the past three years the company's output has increased approximately 25 per cent. One of the most important of Messrs. Harrison's activities is that concerned with colour work, and it is satisfactory to record that the company is handling more of this high-class business than ever before. With the constant advance in the quality of printed matter, it is essential for the printer to keep up to date as regards plant and design, and this Messrs. Harrison have done, with the result that the quality of their service to the chemist, manufacturing or retail, remains at the high level usually associated with their work.

The business of

Thomas Waide & Sons, Ltd.,

printers and lithographers, was founded over fifty years ago by the late Mr. Thomas Waide and a partner; the original equipment consisted of one machine. The partnership was dissolved some twenty years ago, and the founder died in 1932. He was succeeded by his two sons, Mr. E. H. Waide and Mr. T. V. Waide. The company has recently moved into new premises at Kirkstall Hill, Leeds, where the greater accommodation and new machinery enables them to cope with ever increasing business. At Kirkstall Hill the machine room alone occupies an area of over 6,400 square yards, and houses the letterpress, lithographic, composing and label departments. These departments are producing daily huge quantities of printing matter of a style demanded by modern business, including showcards, booklets, catalogues, display boxes, cartons, window displays, posters, etc. There is also a special department devoted solely to the many requirements of the pharmacist, and over 8,000 retailers make regular use of this specialised service. The making of cartons and boxes is carried on in a separate department, staffed by specialists in this work, and modern machinery is used. The artists' room houses a large staff of artists, each a specialist in some particular branch, and here the original designs are prepared for everything which comes under the head of printing.

PHARMACEUTICAL MACHINERY

The manufacture of pharmaceutical and chemical products on a large scale would be impossible without the use of efficient machinery. The works of

George Porteus & Sons (Leeds), Ltd.,

Hunslet, are specially equipped to supply much of this necessary plant. The business was originated in 1886 by Mr. George Porteus, at premises in Hunslet Lane, and has been extended and developed on the present site of 7,000 square yards into a modern and up-to-date engineering establishment. Mr. George Porteus, sen., is still in control of the business, and, assisted by his sons, manufactures all kinds of factory equipment, specially adapted for process work in the pharmaceutical industry. The well-known Porteus grinding machines are used for reducing all kinds of spices, herbs, gelatin, nutmegs, etc., and are built in a compact unit with motor and cyclone collector. Hundreds of these grinding machines are in use in the trade, and practically any grindable material may

be worked through them. The Atlas mixers, originally made by Hind & Lund, Ltd., Preston, are now exclusively manufactured by George Porteus & Sons (Leeds), Ltd. These mixers are used for handling dry powders, liquids, pastes, powdered and granular materials of every description. They are fitted with the patent right- and left-hand agitators which give a true mechanical displacement mixing action, and are manufactured in sizes ranging from 30 lb. per charge up to 5,000 lbs. per charge. They are also arranged with sifter for dressing the ingredients before mixing, or with jacket for cooling by water or heating by steam, to suit any of the many varied processes for which these machines can be used. The company manufactures also conveying and elevating plant of all kinds, and automatic feeder conveyors for measuring accurately the feed supply to process plants. The electrical department is devoted to the manufacture of electric passenger and goods lifts of the latest type.

Inexpensive bottle filling is a subject of more than ordinary interest to chemists, especially to those who market a proprietary, and to wholesalers. Our representative, on calling on

L. T. Lauder,

4 Miles Hill Street, Leeds, was given particulars of the range of inexpensive filling machines designed and marketed by Mr. Lauder. The machines are simple in construction, but effective in operation. Model 4A, for example, is designed for filling sprinkler-top bottles, although other types can be dealt with easily. Gravity filling can be employed, although normally the unit is operated by means of compressed air. The necessary compression is provided by a foot pump, and an adjustable valve is fitted for safe operation. The machine is of stainless steel, on a steel base, all the fittings being chromium plated. The simplicity of this machine's design, along with its sturdy construction, ensures freedom from trouble. A gravity type of machine is also supplied for filling liquids and semi-liquids, at a lower cost. Mr. Lauder markets also the Easi-fold adjustable wrapping device for use with transparent coverings, and the Handy-fil, a simple yet effective end for filling ointments and similar preparations. Mr. Lauder, it became evident in the course of conversation, has a wide and practical knowledge of filling problems, and is a man to consult when output does not justify the installation of elaborate and expensive machinery.

SURGICAL INSTRUMENTS

The business of

Chas. F. Thackray

Great George Street and Park Street, was founded by the present proprietor in 1902. Mr. Chas. F. Thackray qualified as a pharmaceutical chemist in 1899. After spending some time with Squire & Sons, London, he had a wide experience on the Continent. In 1902 he acquired the business at Great George Street, Leeds, which was established in 1862 as a high-class pharmacy by the late Mr. Samuel Taylor. A wholesale business in pharmaceutical specialities was developed, and with the advance of aseptic surgery, the manufacture of sterilised dressings and materials was introduced. Attention was then given to the production of surgical instruments, and after considerable extensions at Great George Street, it was found necessary to secure more accommodation. In 1926 the premises in Park Street were taken over. This building, known as the "Old Medical School," was formerly occupied as the School of Medicine from 1864 to 1893 and is particularly suitable for a business of this nature. The original Gothic architecture has been retained at the front of the premises. In 1932 considerable extensions at the rear of the building were carried out, and an up-to-date factory was equipped for the production of sterilised dressings, surgical instruments, hospital furniture, and sterilising plant. The illustrations (in the photogravure section) show some of the processes in the manufacture of surgical instruments carried out at the Park Street works. The London office and showrooms are in Regent Street, London.

GLASSWARE

The subject of glassware is an important one particularly from the viewpoint of the manufacturer. The business of

Jack L. Barnett, Ltd.,

wholesale glass and general merchants, 18 Basinghall Street, Leeds, exists, in their own words, "to look after the wants of all manufacturing chemists and toilet specialists who are users of glassware of every description." The company specialise in bottles, novelty containers, and gifts suitable for use by manufacturing chemists, and claim to have run some of the most successful of these lines. Jack L. Barnett, Ltd., were the originators of the 7-lb. Upright counter jar, as well as sales display jars, and a range of very effective toilet bottles. The company may be consulted as to new ideas for packing such products as bath salts, medicated sweets, etc.

In view of the fact that Bradford chemists are participating in Conference entertainment, readers will no doubt be interested in the well-known Bradford house of

Brook, Parker & Co., Ltd.,

which was founded in Bradford in 1868. The original founder was Mr. Samuel Parker, who has now reached the ripe old age of ninety, and for many years has been enjoying a well-merited retirement at Morecambe. He could, however, have scarcely foreseen the extent to which this business would grow under the able management of his eldest son, Mr. George B. Parker, the present managing director. Soon after reaching his twenty-first year in 1893, Mr. G. B. Parker passed the qualifying examination, and then took over the active management of the business. Up to that time this had been mainly local, but from then the steady expansion and widening interests have continued until the present. The activities of the company now cover the whole of the British Isles, and it has connections in all the Colonies and Protectorates and in many other countries.

Several moves have been made, until in 1916 the present site at Ashfield, Horton Road, was acquired, and the buildings on this have been enlarged four times since then; the present five-storey buildings have a floor area of approximately 50,700 square feet. During 1933 the space problem again became acute and further premises were purchased in Thorpe Place. These are very convenient buildings, and besides having a further area of over 10,000 square feet, there is a considerable space for extensions.

Brook, Parker & Co., Ltd., claim that practically every requirement of the chemist can be supplied from stock. The visitor commences a tour of the factories at the top of the main buildings, and it may be stated here that these have a dividing wall through the entire length. This is a precautionary measure against fire, but there is, of course, easy access between the two parts on every floor. On one side of the top floor is stored part of the stock of crude drugs for which the firm is well known. Nearly 1,000 bales are stored here, and it is seldom that crude drugs are seen in such large quantities. Little imagination is needed to visualise the labour which must have gone to the collection and cultivation of these in all parts of the world. Calumba, cascara, cassia, chiretta, cinchona, to name only a few, all of which will find their way to the consumer in a form vastly different from the present. The visitor then passes through into the packed goods department, where girls are putting up all kinds of packed goods and specialties for the chemist, and in separate rooms boric lint, cotton wool and other surgical dressings. This department has recently been moved from the floor below, lack of space making a move imperative. The lower floor is now devoted entirely to sundries, first-aid and surgical requisites and chemical and scientific apparatus. All of these are stored on shelves or in glass cases, with special arrangements for easy assembly of orders. From this the visitor passes into the tablet and pill department, where work is in full

swing, drying ovens, granulating, punching and coating machines all being engaged in producing the finished tablets, some examples being cascara, phenolphthalein and laxative vegetable. Two of the machines making ephedrine and phenobarbitone tablets respectively, and further on in the pill room may be seen pills in all stages of manufacture. Adjoining this is the powder mixing room, where bulk powders such as compound liquorice powder, seidlitz, etc., are made in large quantities. Immediately below these manufacturing departments are the drug grinding, crushing and cutting rooms. Every type of machine is used for powdering, crushing or otherwise reducing crude drugs to the required state.

Moving to the other side of the buildings the visitor comes first to the patent medicine and then to the photographic departments. The photographic section is very interesting, as it contains every possible requisite for professional or amateur use, from multiple print washers and large developing tanks down to tiny print trimmers and packets of paper. This department also deals with all the electrical goods, flashlamps and batteries, and it is understood that Brook, Parker & Co., Ltd., are the only wholesale druggists to be appointed factors for electric clocks by the Synchronous Clock Manufacturers' Association. A large number of these clocks are displayed in the showroom. The various offices, buying, invoicing, accountant, etc., are also on this floor. On a lower floor the visitor finds first of all the showrooms. As previously mentioned, a large number of electric clocks are on view here, as well as cameras, first-aid and chemical apparatus and various packed specialties, which impress by their distinctive style. Passing the order office on the left, the visitor comes to the despatch room, where, particularly in the morning, there is great activity. Motors with heavy loads will be seen leaving for such places as Motherwell and Glasgow, Hull and Manchester, and perhaps Nottingham and Blackpool. Ten motor lorries leave every day for various destinations, ranging from Glasgow to Nottingham and from the east to the west coasts. A little further on is the "dry" room. The photographic chemicals are also stored here, large quantities of them being required for the photographic trade.

Yet another descent brings the visitor to the "wet" rooms and the research and manufacturing laboratories. These are under the control of Mr. C. B. P. Milburn, Ph.C., who was a member of the Pharmaceutical Society's Board of Scottish Examiners. Here all the galenicals and chemicals are manufactured, and the plant includes steam pans, ovens, percolators, ointment mills, emulsifiers, presses, crystallising pans and various other machines. Below all these are the cellars, where oils and other heavy chemicals are stored, and at one end, in a separate building, the boiler house. It might be mentioned here that Thorpe Place slopes rather steeply, so that actually three floors have a point where there is access to the roadway at ground level, which is most convenient for loading and unloading purposes. The new warehouses in Thorpe Place are grouped round a central covered-in yard, and are used mainly for the manufacture and storage of heavy chemicals. The ground floor is used for the storage of Epsom salts, glauher salt, hyposulphite of soda and other chemicals which are bought in large quantities, as well as for manufacturing purposes. On the second floor are stored further large quantities of crude botanical drugs, while the drying rooms—where crops of specially cultivated medicinal herbs are dried—take up part of the top floor. By the side of these buildings there is also a large area with a frontage of 180 feet suitable for further developments.

In conclusion, it may be pointed out that the growth of the Leeds pharmaceutical industry to its present pre-eminent position is due, in no small measure, to the application of energy and initiative, two characteristics not unknown in this part of the country. After an extended tour the visitor leaves with the impression that so far as the supply of pharmaceutical and allied products is concerned, the chemist drawing on Leeds is indeed well served.

TREATMENT OF INSECT BITES

At this time of year most people suffer from the attentions of mosquitoes, midges, bees and wasps. Preventive measures against the bites of the first two generally consist of keeping the insects at a distance by means of smoke or the application to the skin of a preparation containing a fair pro-

portion of an essential oil, such as citronella or verbenal, a typical formula being:—

Oil. cedri ...	...	...	3iss.
Oil. citronellae ...	...	...	3iiss.
Sp. camphoræ ...	...	ad	3j.

This should be smeared on the skin of the exposed parts as often as is necessary. Cod-liver oil used in the same way has been highly recommended. Other recipes for preparations of this nature are:—

Oil of cassia ...	1 part	Eucalyptus oil ...	2 oz.
Brown oil of camphor ...	1 part	Liquid carbolic acid ...	4 M.
Lanolin ...	4 parts	Citronella oil ...	2 oz.

The irritation of a mosquito or fly bite may be allayed by gently rubbing the puncture with a moist cake of soap, or by applying a 1 per cent. alcoholic solution of menthol, or 1-20 watery carbolic lotion. Hydrogen peroxide or weak ammonia solution dabbed on is useful also, or if something a little more elaborate is preferred either of the following can be recommended:—

Liq. plumbi sub. ...	3ij.	Boric acid ...	3ss.
Liq. ammon. fort. ...	3ij.	Borax ...	3ss.
Camphoræ ...	gr. xv.	Quassia extract ...	gr. xviii.
Glycerin ...	3iss.	Lavender oil ...	Mxxiv.
Aq. rosæ ...	ad 3xx.	Glycerin ...	3ij.
		Spirit ...	3vj.
		Water ...	to 3xx.

If the bite shows signs of sepsis, constantly renewed

Tragacanth, powdered ...	...	3 gm.
Alcohol, 90 per cent. ...	...	5 gm.
Distilled water	22 gm.
Glycerin	45 gm.

Make a mucilage in which

Sodium carbonate	2.5 gm.
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is dissolved. Then add the following solution:—

Menthol	1 gm.
Sodium benzoate	1 gm.
Citronella oil ...	...	1 gm.
Alcohol (90 per cent.) ...	...	10 gm.
Soap spirit ...	...	10 gm.

Treatment of a bee or wasp sting consists, first of all, in removing the sting. This should not be laid hold of with forceps or fingers and pulled out. Such a proceeding will squeeze the poison sac and force more poison into the wound. The sting should be lifted or scraped out with the blade of a knife or the edge of a long finger-nail. The application usually recommended is solution of ammonia. It is important that this should be dabbed on and not rubbed, or it will rapidly remove the epidermis. In the absence of ammonia, gentle



rubbing with a moist cake of soap may be tried. The application of a bag of washing blue is a household remedy of great popularity. Hot fomentations are useful in relieving the pain of severe stings. While the poison of the bee is acid, that of the wasp is alkaline, and therefore in the case of wasp stings an acid application, such as vinegar, should be more effective in relieving the pain than an alkali.

The immediate local application of a saturated solution of aloe in alcohol has been found of benefit in the treatment of wasp stings and insect bites. It has been found that if the solution were rubbed in immediately no local or general reaction took place. Protection against "harvest bugs" can be obtained by sprinkling sulphur or naphthalene in the stocking or underclothes.

The preparations shown in the illustrations are those of The British Drug Houses, Ltd. (Otango); Burroughs Wellcome & Co. (Sketofax); The Crookes Laboratories (Karvol); R. Demuth (Mirados); Evans Sons Lescher & Webb, Ltd. (Cupidol); Vinolia Co., Ltd. (Lembenol).

LEEDS

A CENTRE OF COMMERCE

THE available evidence points to the inference that the commercial pre-eminence of Leeds, with all that it implies, has been brought about by hard work rather than by the adaptation of fortuitous natural advantages. The prehistoric remains in the City Museum have seldom been found in the city itself; and it appears that the Romans made little impression in the West Riding, which during their rule in this country must have been largely forest and untilled land, uninviting to founders of settlements. Although the Riding has been so thoroughly industrialised within the last two centuries, its botany still offers an extensive hunting ground to the investigator; no fewer than twenty-three pages are devoted to this subject in the Victoria County History of Yorkshire. John Speed, writing in 1611, explains the hardness of the inhabitants of the West Riding thus:—

"The aire vnto which this County is subiect, is for the most part frigid and cold, much subiect to sharp winds, hard frosts, and other intemperate and Winter-like dispositions of weather: Insomuch as the People of this Province, are inured to maintain a moderate, and ordinary heate in their bodies, by an extraordinary hardnesse of labour, and thereby become very healthfull, and no so often afflicted with infirmities, as others are that live more easily."

The first mention of "Loidis" occurs in the writings of Bede. It is considered that the place was named after Loidi, its Saxon possessor. In the Domesday Book it appears as "Ledes," with a grant from William I to Ilbert de Laci. T. D. Whitaker, in "Loidis and Elmete" (1816), gives a graphic picture of the probable extent of the village (if such it was) in Saxon times:—

"Whatever streets do not bear the Saxon name of gate were then, if anything, lanes in the fields, and this rule restricts the original Leeds to Briggate, Kirk-gate, and Swinegate, which last formed the original approach to the castle, which, at a somewhat later period, was erected by the Lacies. Let the reader . . . figure to himself two deep and dirty highways, one stretching from the bridge to the present Moothall, the other at a right angle to the parish church, with seven and twenty dwelling houses constructed of mud, wattles, and straw, the usual architecture of the Saxons; their mean barns, farm yards, &c. and here and there a wretched cabin, perhaps of still meaner structure, dispersed at intervals along these two lines."

In the Middle Ages

WITH the grant of a charter by Maurice Paynell in 1207 we reach the solid ground of fact. The prime importance of this document for those to whom it was addressed was that by it they were promoted from the status of villeins to that of burgesses. The magistrate in charge of the borough was appointed by the owner of the land on which it stood, and paid him an annual sum as the equivalent of any rents and fines received. One feature of the first Leeds charter was that ale-wives were permitted to sell their ale free of customs duty. The only other commodity mentioned in the text was corn. One by one the industries of Leeds came into being. A fulling mill is mentioned in a record of the year 1321; coal mining is frequently referred to in docu-

ments of the same century; and the first bridge over the Aire was erected in or before 1376. On the accession of Henry IV in 1399 the manor reverted to the Crown.

In the course of the next century Leeds gradually overtook neighbouring towns, such as Ripon and Halifax, in the quantity of cloth manufactured. A little later Camden, the antiquary, wrote:—

"*Ledis* . . . on *Aire* river, is a praty market [town] having one parochie churche, reasonably well buildid, and as large as Bradeford, but not so quick as it. The town standith most by clothing."

During the fifteenth century there occurred another event of importance in the development of the borough—the foundation, about the year 1489, of the Grammar School. The beginnings of the School were, like the size of the borough, modest: but the governors were favoured from an early date with a succession of distinguished headmasters, whose names have been duly recorded.

In the Seventeenth and Eighteenth Centuries

LEEDS received three charters in the course of the seventeenth century—in 1626, 1661 and 1684. The preamble to the first of these sets forth, *inter alia*, that "divers clothiers of the said town and parish have begun to make and do daily endeavour to make deceptive cloths, which are dyed with the wood called Logwood." This charter has disappeared, but the two later ones are preserved among the archives of the city. Municipal enterprise also took another form, the erection of a moothall in Briggate just before the year 1620: it was rebuilt in 1710. Leeds suffered to some extent in the Civil War, the town being taken by Sir Thomas Fairfax in 1643, and a visitation of the plague following. In 1647 Charles I was lodged, as he passed through on his way south, in the Red Hall, Upper Headrow, so called on account of its being the first house in the town to be built of brick. One result of the disturbances of this period was the issue of tradesmen's tokens. Among those illustrated in Wardell's "Municipal History of the Borough of Leeds" is one showing a pestle and mortar and dated 1668. The names on it are Mathew Hardwicke and William Waugh.

Early in the eighteenth century Leeds attracted the attention of Defoe, one of the greater lights of journalism as well as a great novelist, who, with his keen eye for detail, has left us the following description in the third volume (1727) of his "Tour through the Whole Island of Great Britain."

"Leeds is a large, wealthy and populous Town, it stands on the North Bank of the River *Aire*, or rather on both Sides of the River . . . and the whole is joined by a stately and prodigiously strong Stone Bridge, so large, and so wide, that formerly the Cloth Market was kept in neither Part of the Town, but on the very Bridge it self . . . it is now kept in the High Street, beginning from the Bridge, and running up North almost to the Market-House, where the ordinary Market for Provisions begins. . . ."

After protesting that no description of the Cloth Market "can come up to the Thing it self" he proceeds to make a "Sketch of it with its Customs and Usages." Early in the morning, on two days of the week, he tells us, trestles with their boards are placed in two rows in

the street, and every merchant takes up his position with his stock of cloth. Then,

"As soon as the Bell has done Ringing, the Merchants and Factors, and Buyers of all Sorts, come down. . . . Some of them have their Foreign Letters of Orders, with Patterns seal'd on them, in Rows, in their Hands; and with those they match Colours, holding them to the Cloths as they think they agree to: when they see any Cloths to their Colours, or that suit their occasions, they reach over to the Clothier and whisper, and in the fewest Words imaginable the Price is stated; one asks, the other bids; and 'tis agree, or not agree, in a Moment. . . . By half an hour after eight a Clock the Market Bell rings again; immediately the Buyers disappear, the Cloth is all sold, or if here and there a Piece happens not to be bought, 'tis carried back into the Inn, and, in a quarter of an Hour, there is not a piece of Cloth to be seen in the Market."

The reason for whispering, Defoe explains, is to prevent competitors overhearing the details of each transaction. After giving further details of Leeds, he concludes: "It is really a surprising Thing to see what Numbers of People are thronged together in all the Villages about these Towns [Leeds and Halifax], and how busy they all are, being fully employed in this great Manufacture."

Leeds continued to attract weavers of woollen fabrics, till in 1794 the number of broadcloth manufacturers in the West Riding was calculated to be 3,240, "not one of whom is to be found more than one mile east, nor two miles north of Leeds . . . they are generally men of small capital and often annex a small farm to their other business." Dyeing naturally increased in proportion; and many less closely related industries sprang up—e.g., tool-making, leather, glassware, and of late years electrical engineering. The public lighting of the streets was undertaken in 1755, and waterworks were constructed in 1790. There had, however, been an earlier system of water supply.

A few lines must be devoted to Leeds pottery, a considerable industry in the late eighteenth and early nineteenth centuries. The writer of the section "Pottery" in the Victoria County History of Yorkshire is of opinion that "the old Leeds pottery stands easily first amongst the Yorkshire potteries . . . no [other] Yorkshire manufactory ever turned out the same quality of work both as regards beauty of design and excellence of body." Fine specimens of this ware may be seen in the City Museum.

With the advent of the nineteenth century came an increase in the use of the roads that appears to have

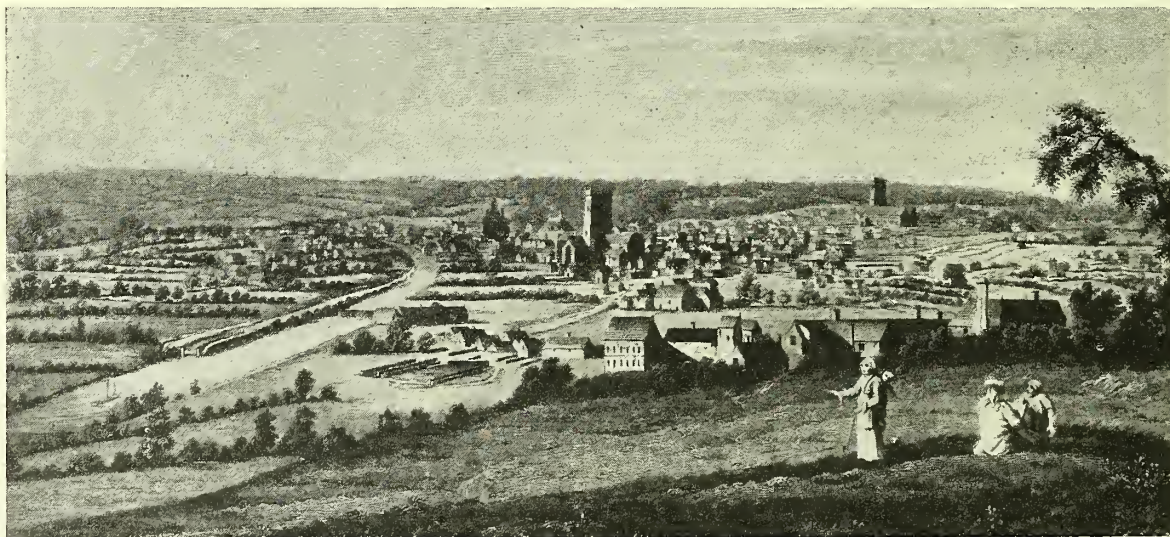
caused a serious traffic problem in Leeds. This is what the Rev. T. D. Whitaker, the author of "Loidis and Elmete" has to say on the subject in 1816:—

"After all, though it may appear paradoxical, the fact is certainly true that danger in travelling is proportionably increased as the appearance of it is removed. In the state of the roads at that time [the seventeenth century] swiftness was impossible, and necessity itself taught a lesson of caution and circumspection both to man and beast. The returns of coroners' inquests within these districts for the last fifty years would prove, I am persuaded, that the increased number of casualties is much greater than the increase of population. If the sober and prudent can travel now with greater security than heretofore, which is very doubtful, the lower orders of people are never prudent, and not always sober. Lay out before such thoughtless creatures a road like a race-course and you produce races innumerable, in which a fall is not like that of a slow beast under its burden, but productive almost of certain death. . . . I do not mean to be understood as arguing from the abuse to the nonuse of turnpike roads, but I do say that expedition and accommodation have been purchased at the expense of security."

What Mr. Whitaker would have said of the "races innumerable" of the twentieth century can only be conjectured.

Two Leeds Benefactors: Harrison and Thoresby

IT is significant that the two principal benefactors of the Leeds of the seventeenth and eighteenth centuries were merchants. John Harrison, the only son of a Leeds merchant of the same name, was born in 1579. He inherited a fortune from his father, and is said to have increased it. In 1624 he provided a new Grammar School on a more convenient site than the first one: about the same time a market cross was erected at his expense. On the grant of a charter to the town by Charles I in 1626 he became the first head of the Corporation, with the title of Alderman, as the deputy of Sir John Savile, whose appointment was merely honorary. Eight years later he founded a new church, St. John's, on land adjoining a hospital which he had just completed. The church was consecrated in 1634 (in which year Harrison was Alderman for the second time); but a dispute with the Archbishop of York over the details of the foundation was the beginning of a series of troubles which continued for the rest of his life. The Vicar of the Parish Church was a nephew of Harrison, and in the varying fortunes of the Civil War which broke out in 1642 he suffered the loss



VIEW OF LEEDS AS SHOWN IN THORESBY'S "DUCATUS LEODIENSIS" (British Museum)

of his office, with imprisonment, while Harrison, taking no active steps to assist either side, managed to offend both. His estates were sequestered—partially, at any rate—and he died a bitterly disappointed man in 1656.

Ralph Thoresby, who was born in 1658, belonged, like John Harrison, to a Leeds family of merchants. Before he was twenty-one he was sent by his father to London and to Holland, the programme in each case including, apparently, as much of sightseeing as of business. The father died unexpectedly in 1679, leaving Ralph certain duties towards younger members of the family and a business which was beginning to suffer from the falling away of export trade. During the next few years various references to fluctuating fortune occur in his diary—which, incidentally, fixes the date of removal of the famous cloth market from the bridge to "the broad street above" within narrow limits in 1684.

Thoresby was a frequent traveller, preferably on horseback, for he protested that travelling by coach was effeminate. He became involved in ecclesiastical controversy, for some years, to a greater degree than John Harrison, but managed to regularise his position in this respect by about the year 1700. His commercial ventures gave him considerable variety, if little more. In 1689, for instance, he acquired a mill for pressing rape oil; but the worry occasioned by this branch of his trading led to his winding up the concern and selling the estate on which it stood. It seems that he was easily deceived.

Before he had been in business long he took up antiquarian research—at first, no doubt, as a pastime, but eventually as his sole vocation. As early as 1697 he was elected a Fellow of the Royal Society, to the *Philosophical Transactions* of which he contributed numerous papers. The nature of his studies brought him into contact with Sir Hans Sloane, Thomas Hearne, and other antiquaries. His principal work, "*Ducatus Leodiensis*," appeared in 1715; it had the distinction of a seven-page notice in the *Philosophical Transactions*, and of being edited and expanded into a massive folio 101 years later by T. D. Whitaker. It sold well, and deservedly, as in spite of a few slips it was (and remains) of great value from an antiquarian point of view.

Thoresby was a regular consumer of spa waters: we find him drinking "both waters" at Harrogate in 1680 and the two following years, and somewhat later, on the advice of a bishop, he investigated the Leeds spa waters thoroughly. He notes, for example, a spring dedicated to St. Peter, "intensely cold, and very beneficial for such as are afflicted with *Rheumatic Pains*, or Weakness, Rickets, &c. . . ." Occasionally we find an almost Pepsyan touch in the entries in his Diary:—

"Went to see a man . . . eat brimstone, lead, beeswax, sealing-wax, pitch, rosin, blazing hot: he dropped brimstone in a blaze upon his tongue; and so wax, and made thereon the impression of a seal, which I have; and (which I went most to see), he walked upon a red-hot bar of iron, which I fancied to be somewhat like the way of ordeal, much in use among the Saxons. . . ."

Thoresby died in 1725. Leeds has kept him in memory by the formation of the Thoresby Society, under the auspices of which several useful publications have been issued.

The City in 1934

ACCORDING to the latest census returns Leeds is the fifth English provincial city in order of size, with a population of 482,789. Our notes on its history may be supplemented by a brief glance at the principal buildings and other features of interest as they appear to-day.

The Town Hall, erected in Victoria Square in 1858, is a handsome stone building 250 feet long by 200 feet wide, with a flight of steps in front surmounted by Corinthian columns and terminating at each end in a massive lion, also carved in stone. A statue of Queen Victoria, by whom the Hall was opened, stands in the Square. The great hall, 161 feet in length and 72 feet in breadth, is famous as the home of the Leeds Triennial Festivals, connoisseurs of choral singing visiting Leeds for qualities they can find nowhere else.

The Civic Hall, opened last year by their Majesties the King and Queen, occupies a commanding position at the junction of two streets near the Town Hall. It represents the latest ideas in the designing of municipal headquarters, and Conference visitors will have an opportunity of admiring its handsome interior.

The Art Gallery and Public Library, dating from 1868, stands close to the Town Hall. The Art Gallery is well worth a visit, the pictures being of distinctly greater interest than those of the average municipal collection. Among the older artists are to be found examples of Gainsborough, Constable, Reynolds, Turner, Opie, Rowlandson and Bonington; while the more modern painters represented include Muirhead Bone, Brangwyn, Cotman, Augustus John, Burne Jones, Leighton, Orpen and Watts. Several of Phil May's original sketches occupy a place of honour; and the appeal of this charming gallery is widened by specimens of china and furniture. Sculpture, so well represented in the squares of Leeds, also finds a home here. The Public Library is widely known for its commercial and technical department.

The City Museum in Park Row dates from 1819, and must thus have been one of the earliest museums in this country after the British Museum and the Ashmolean. One of its most interesting relics of the remote past is a primitive boat or canoe, well preserved; it also possesses good geological and zoological departments, an excellent display of ancient coins and tokens, and a very attractive collection of maps and pictures of the city for more than 100 years past. A branch of the museum has been installed at the Abbey House, Kirkstall.

The University of Leeds was evolved from the Yorkshire College of Science, which, established in 1874, incorporated an older body, the Leeds School of Medicine, founded in 1831. As time went on the Yorkshire College increased the number of its departments in response to demands for the teaching of additional subjects. In 1887 it united with the Victoria University of Manchester as its third constituent college. In 1904, however, it received its own charter from King Edward VII and became the University of Leeds. An extension to the existing building was opened by King Edward and Queen Alexandra in 1908, and to-day the main block in University Road occupies more than eight acres. The University courses, so far as they are of direct interest to pharmacists, are indicated annually in the Educational Number of *THE CHEMIST AND DRUGGIST*.

Leeds Technical College fills an important place in the life of the city. The College arose out of the Mechanics' Institution, founded in 1824. For a long period the teaching of scientific subjects was carried on under the auspices of the governing body of the Institution, with the aid of grants from other bodies; but since 1908 this work has been controlled by a board of governors under the Leeds education authority. The College is organised under eight main departments, each related to a group of allied trades; and in view of the numerous industries carried on in the city it is obvious that such teaching as the classes provide is of the first importance from a technical point of view.

Much might be written on the history of the Parish Church of St. Peter—or rather on that of its predecessors, it being regarded as the fifth church to stand on its site. The present structure was erected in 1838-41 under the energetic régime of Dr. W. F. Hook, afterwards Dean of Chichester. It may be that it savours too much of its period to be regarded as beautiful in a strict sense of the word; but it is certainly impressive. The unusual arrangement of the galleries at once strikes the eye of the visitor, and anyone of an antiquarian turn of mind will be able to discover a stone cross of tenth-century workmanship, ancient monuments and much besides.

St. John's Church, which stands in New Briggate, was built and endowed in 1634 by the munificence of John Harrison, one of the earliest and best known of the city's benefactors, to whose career reference is made in another paragraph. It contains, in addition to his monument, some contemporary carving in wood worth the attention of the antiquary.

The church associated with Joseph Priestley, Mill Hill Chapel, stands at the junction of City Square and Park Row. It replaces the original church erected in 1672.

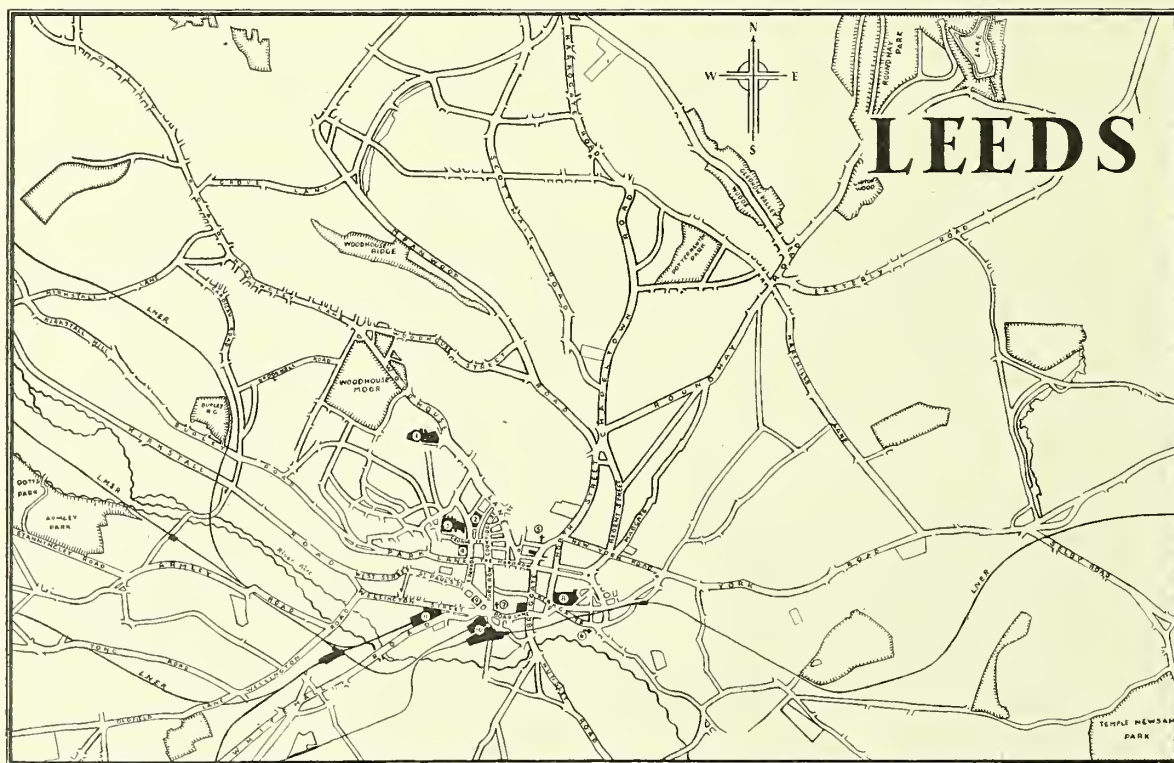
which enjoyed the ministration of Priestley from 1767 to 1773. Adjoining it is Priestley Hall, built in 1859 on the site of Priestley's house. The open courtyard in front of the church still contains many of its old grave-stones. The present church, which dates from 1847, is a handsome building with many stained-glass windows, one of which is said to date from Priestley's time. An unusual feature of the church is a small library, comprising books mainly on theological subjects, and housed in a room forming part of the main entrance. We are inclined to wonder how, with the cares of a church on his mind, Priestley found time to make the brilliant experiments referred to in Mr. William Kirkby's bicentenary article in *THE CHEMIST AND DRUGGIST* of March 11, 1933, to which we may refer our readers.

It becomes of interest to trace Priestley's scientific progress while in Leeds. He was already LL.D. and F.R.S. when he removed thither from Warrington in September 1767. We are told in the Dictionary of National Biography that he "wrote few discourses, making no secret of his habit of exchanging sermons with his friends." He established, however, in 1769, the "Theological Repository," and engaged in controversy with other authors. In 1770 he founded the Leeds Circulating Library. In 1766 Benjamin Franklin had persuaded Priestley to write a "History of Electricity." The history was published within twelve months. The book enhanced its author's reputation: he corresponded with Volta and others, and directed the construction of an electrical machine for the Grand Duke of Tuscany. After 1770 he practically abandoned electricity in favour of chemistry, commencing by studying combustion. He was also led, by watching the process of fermentation at a brewery near his house, to investigate gases; and in March 1772 he read a paper "On Different Kinds of Air," which, says Mr. P. J. Hartog in the D.N.B., "marked an epoch in the history of the science." He described the preparation of "phlogisticated air" (nitrogen) and of gases which were afterwards identified as oxygen, carbonic oxide and nitrous oxide. The paper was awarded the Copley medal of the Royal Society. In 1772 appeared Priestley's "History

of the Present State of Discoveries relating to Vision, Light, and Colours." During his Leeds period he also wrote "A Familiar Introduction to the Study of Electricity" (1768); "A Familiar Introduction to the Theory and Practice of Perspective" (1770); and "Directions for Impregnating Water with Fixed Air" (1772). His announcement of the discovery of the gas named oxygen by Lavoisier belongs to 1774, by which time he had left Leeds.

In his "Memoirs" Priestley devotes only fourteen duodecimo pages to his life in Leeds. It appears that he was handicapped in his ministerial work by a persistent stammer, which gave him much trouble to subdue: "however," he writes, "by making a practice of reading very loud and very slow every day, I at length succeeded in getting in some measure the better of this defect, but I am still [in 1795] obliged occasionally to have recourse to the same expedient." His industry is almost incredible; the Memoirs contain a list of 108 books and other publications written by him, and the General Catalogue of the British Museum devotes about twenty-nine folio pages to entries bearing his name. Two of his publications written in Leeds made a decided impression—the "Fixed Air" pamphlet of 1772, already referred to, which was at once translated into French, and "An Appeal to the Serious Professors of Christianity," of which more than 30,000 copies were sold or distributed. At one time Priestley was favourable to a proposal to accompany Captain Cook, the explorer, on his second voyage to the South Seas; but the proposal fell through.

The citizens of Leeds are justly proud of their municipal parks and open spaces. Roundhay Park, three miles from the centre of the city, is perhaps the best known: it comprises 615 acres, and has many amenities. Temple Newsam is still larger, extending to about 900 acres; it possesses a mansion dating from 1662 and having the added interest of literary association. Potternewton Park, easy of access, is a third "lung" of noteworthy charm; and there are others. Kirkstall Abbey, the most conspicuous ornament of the suburbs of the city, dates from 1152.



1—UNIVERSITY
2—CIVIC HALL

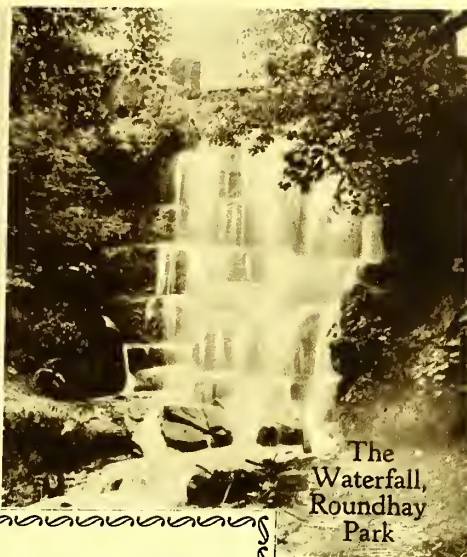
3—GENERAL INFIRMARY
4—TOWN HALL
9—GENERAL POST OFFICE

5—ST. JOHN'S CHURCH
6—ST. PETER'S CHURCH
10, 11—L.M.S. & L.N.E.R. TERMINI

7—MILL HILL CHAPEL
8—CENTRAL MARKETS



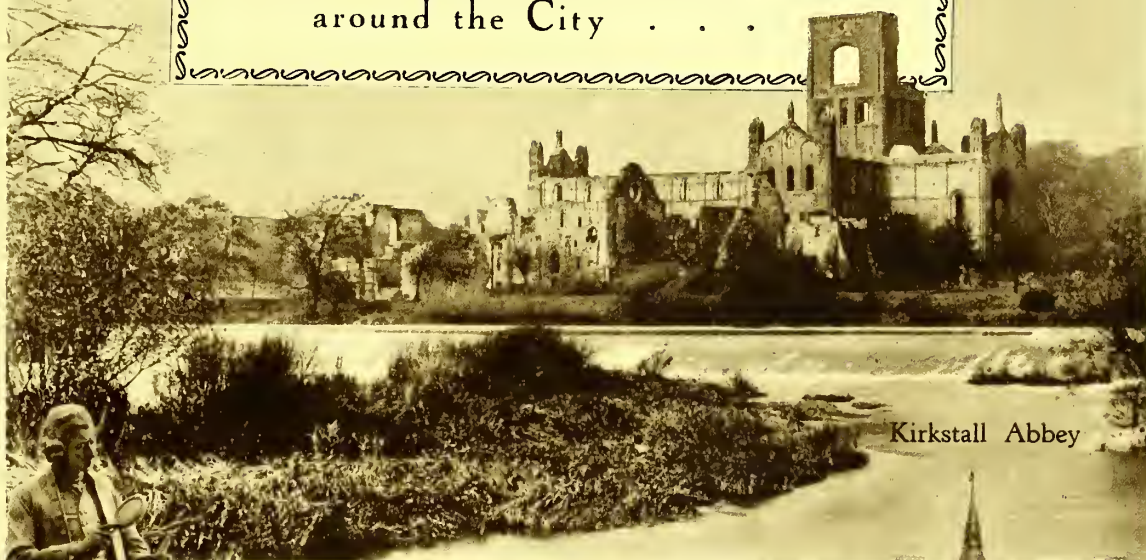
The
Town Hall



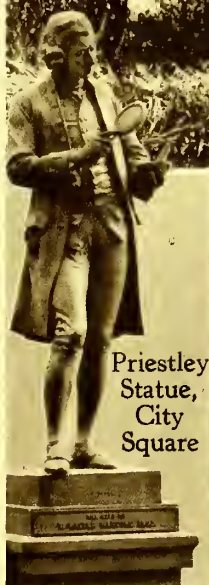
The
Waterfall,
Roundhay
Park

LEEDS

Views and Portraits in and
around the City . . .



Kirkstall Abbey



Priestley
Statue,
City
Square



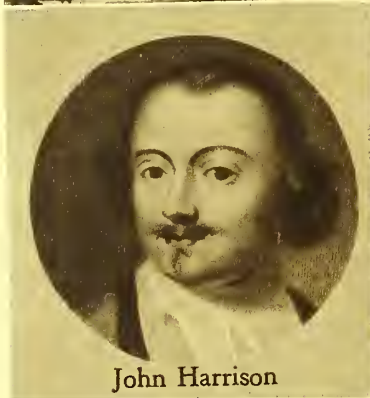
City Square



The Civic Hall



Parish Church



John Harrison



The Courtyard, Civic Hall



The University



Ralph Thoresby

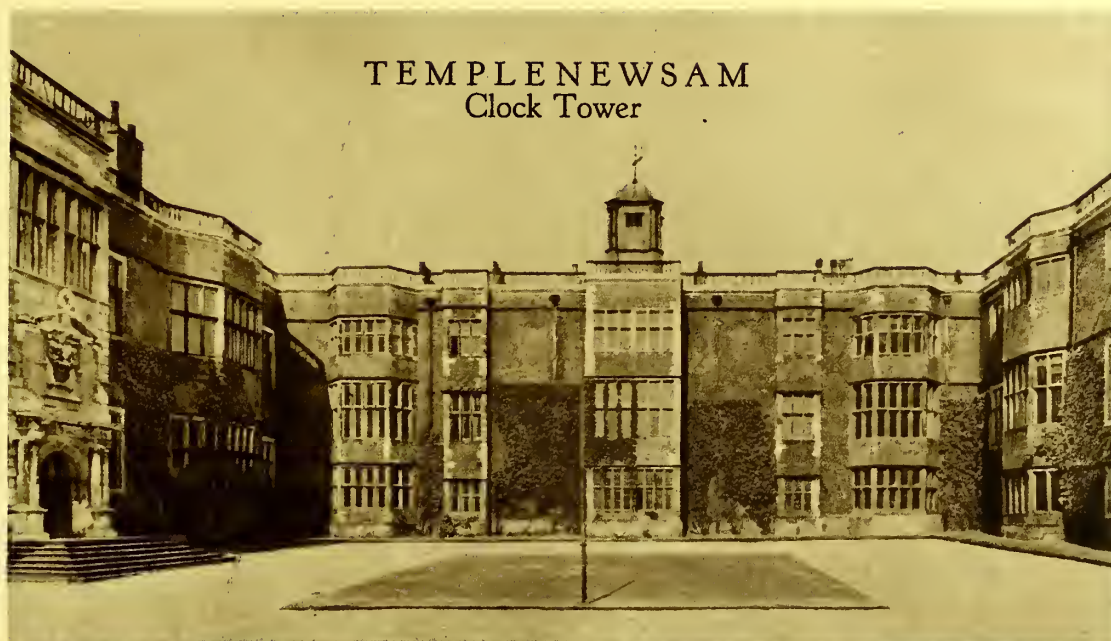


Briggate



General Infirmary

Photos: Chas. R. H. Pickard & Son



TEMPLE NEWSAM
Clock Tower



The Great Hall



The Dining Room



Picture Gallery, Looking East

GLASS BOTTLE MANUFACTURE



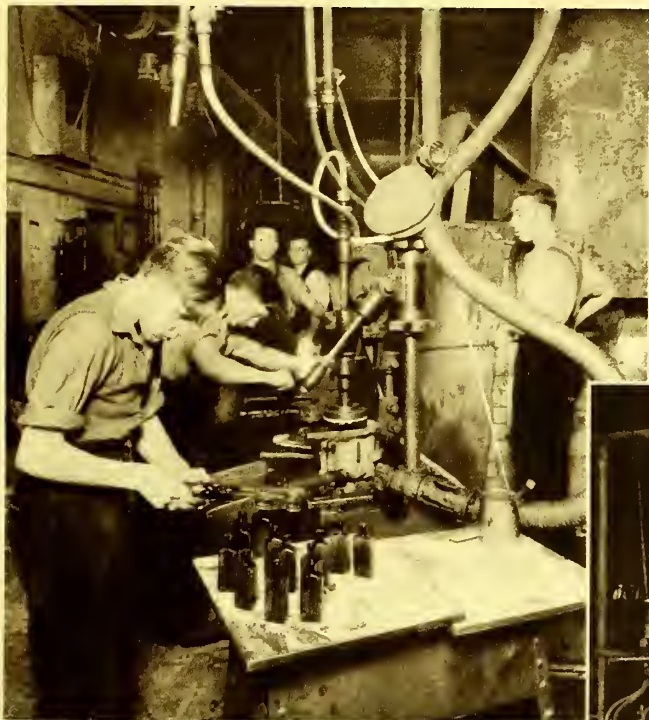
Above, left, making crucibles



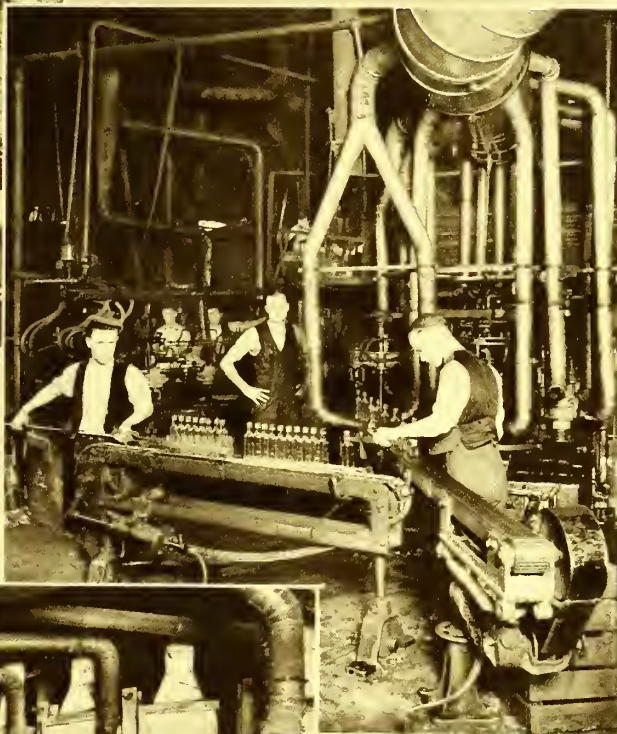
Above, right, taking molten glass from the furnace



Right, two stages in the manufacture of a hand-made bottle. The glass is roughly shaped by rolling it on an iron table, and then blowing in a mould



Glass bottle manufacture
by the semi-automatic
process



A view of part of
the plant showing
production by the
full automatic
process



A scene in the
works showing
several opera-
tions involved in
the manufacture
of glass bottles

Photographs by courtesy of LAX & SHAW, Ltd.

NEW WORKS

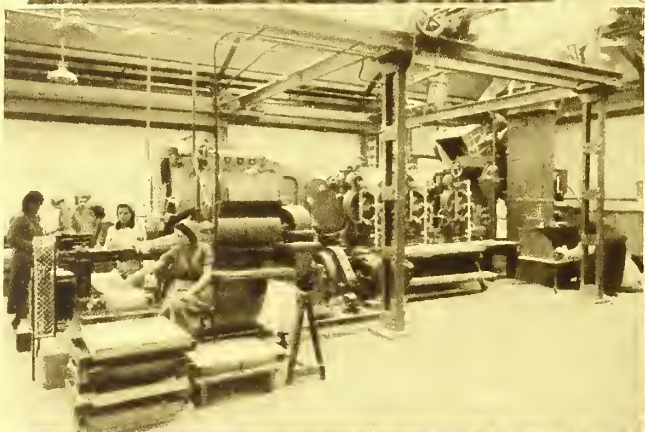
BOURJOIS' MODEL FACTORY AT CROYDON



The main entrance hall



The perfumery laboratory



One of the soap-milling machines



A view in the finishing department



Filling "AI" cod-liver oil



Wet section, drug department



Multiple tablet punch



The analytical laboratory



Finishing packed goods



Dry section, drug department

SOUTHALL BROS. & BARCLAY, Ltd. NEW BIRMINGHAM PREMISES



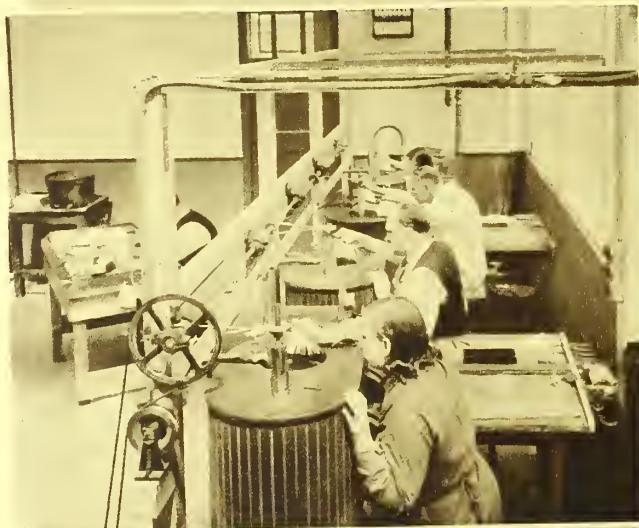
Graduating
clinical
thermometers



General view
of factory



Making thermometer casings



Calibrating clinical thermometers



Thermometer glass blowing

G. H. ZEAL, Ltd. NEW FACTORY AT MERTON



Glass Bottle Manufacture in Leeds

ONE of the many industries carried on in the city of Leeds—the venue of this year's Conference—is the manufacture of glass bottles. The well-known house of Lax & Shaw, Ltd., whose three works are situated in the Hunslet Road district, recently granted facilities for a C. & D. representative to visit the factories, to note the various processes, and to obtain the photographs illustrating this article. In addition to the illustrations incorporated in the text, a selection showing a number of interesting operations in the manufacture of glass bottles will be found in the photogravure section.

MELTING THE GLASS

The manufacture of glass bottles commences when the raw materials entering into the composition of the glass are mixed in a room known as the "batch" room. These raw materials include sand, soda and lime, and various chemicals such as oxides for colouring, and other chemicals for decolouring, are used. Glass is melted in clay pots or crucibles, in a pot furnace, or in a tank furnace, and the next visit is to the room where the crucibles are made from a special pot clay; in this room crucibles in various stages of manufacture may be seen. After making, the crucibles are stored for some considerable time prior to use. They are then gradually brought to a white heat in a pot-arch furnace; the crucibles are then ready to be transferred to the furnace.

The visitor is next shown tank furnaces where the glass is melted inside the four walls in actual contact with the flames. A tank furnace consists essentially of a large tank, with bottom and sides of a suitable refractory material; provision is made for the introduction of batch and flame and for the removal of glass (a tank furnace in course of being emptied for repair is illustrated). One end of the furnace, known as the "filling-on" end, is fed with the raw materials of glass, and the other end is called the "working" end; between them is the "bridge," in which there is a hole communicating with the two departments, the object being to prevent unmelted glass or other floating impurities from passing into the working end, where pure glass is required. A visit was then paid to the gas-producer plant which, burning coal, first forms carbon dioxide, and later carbon



MIXING THE RAW MATERIALS

monoxide—the gas burned in the furnace. There is also another type of producer in which steam is used, forming carbon monoxide and hydrogen—both inflammable gases. In the case of oil-fired furnaces, the oil is preheated before being passed to the burners.

MAKING BOTTLES

Three processes of glass bottle manufacture are carried on in Messrs. Lax & Shaw's factories. In the first—manipulation by hand—the operator gathers glass on a blowpipe, and then rolls it on an iron table known as a "marver," thus roughly shaping the glass before placing it into the mould where it is blown (these processes are illustrated). The bottle, after being extracted from the mould, is cut from the blowing iron. The bottle is then finished by the bottle maker, who reheats the neck in a small subsidiary furnace known as a "glory hole," and completes the job with the aid of a special tool. In the semi-automatic process the glass is gathered from the furnace, placed into a mould, and is then blown slightly. The neck is shaped in the mould, and the bottle then passes on to the blow mould, where it is blown. The bottles are then taken to a "lehr," or annealing oven, where they are gradually cooled. During the C. & D. representative's visit this part of the plant was engaged in producing 8-oz. poison bottles. The operators, of course, work to stated weights and only very small limits are allowed. The finished bottles are then taken to a sorting room, where any of faulty manufacture are discarded. At this point it was interesting to see the packing room—where bottles are packed in crates for dispatch—and the mould shop, which contained an enormous stock of moulds. There is also a

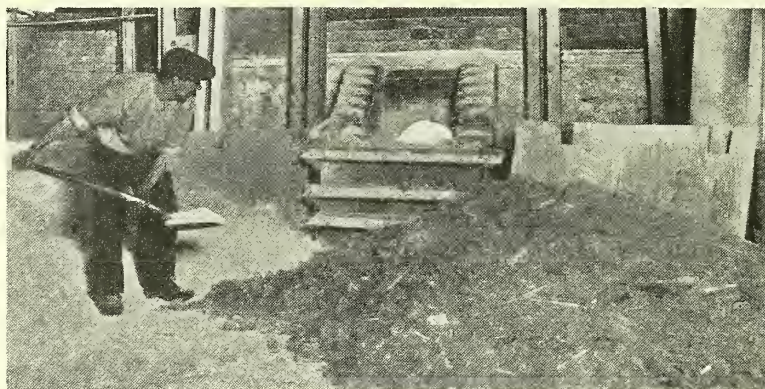
department where bottles are washed and the necks covered with paper, so that they may reach the user in a clean condition.

Leaving Albert Works, the visitor proceeds to Donisthorpe Works, where he sees production by the full automatic process. The raw materials are placed in an automatic mixer—not unlike a concrete mixer—and when mixed are fed into the furnace, which is of the regenerative type. The molten glass drops from the furnace and is automatically cut off into pieces of correct weight; these pieces enter the moulds, which pass round the machine, delivering the completed bottles at the other end. All the bottles produced are subject to an

examination, when even the slightest imperfection is sufficient to cause them to be discarded. The machines used in the full automatic process are remarkably ingenious in construction. The latest types are capable of producing some forty bottles per minute—in contrast to the early machines, which had a capacity of about twelve per minute. At

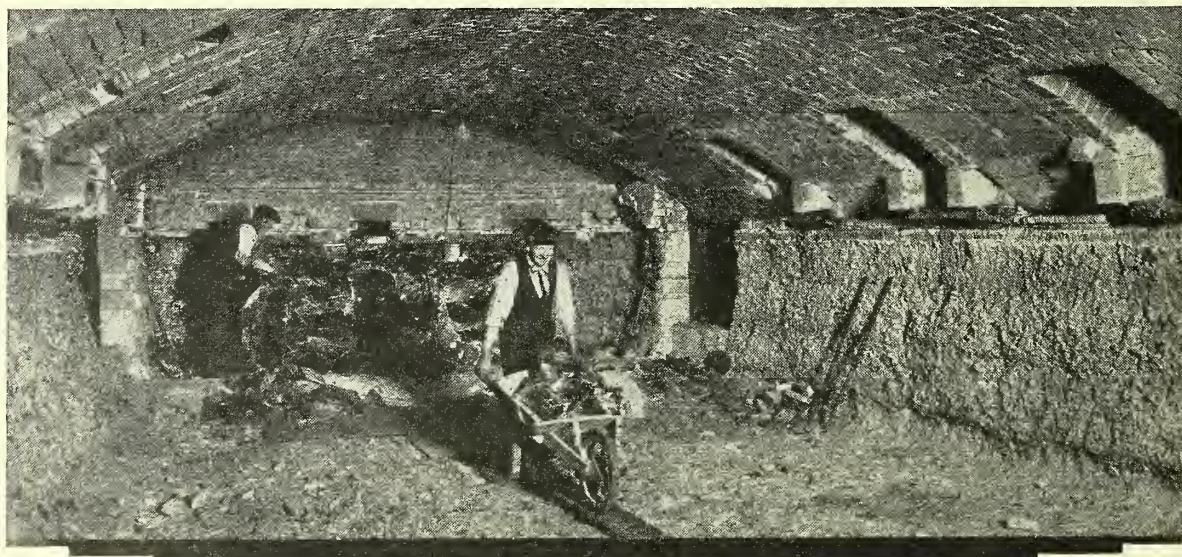
Donisthorpe Works, too, the visitor is shown the new warehouse which Messrs. Lax & Shaw have erected to deal with the service of washed, dried and packed bottles. Another interesting feature is the heatless "lehr," a huge annealing oven wherein heat is supplied by the bottles supplemented by a little auxiliary heat from oil.

Clarence Works, the third of Messrs. Lax & Shaw's factories, are run on lines similar to Albert Works, the plant including two tank furnaces—one on gas and the other on oil—producing white flint glass and pale green medical glass. One of the most interesting processes at Messrs. Lax & Shaw's works is the manufacture of feeding bottles by hand methods.



CHARGING A FURNACE

AN INTERESTING PHOTOGRAPH SHOWING THE INTERIOR OF A FURNACE OUT FOR REPAIR. THE GLASS IS BEING CHIPPED OUT IN LARGE PIECES



NEW WORKS

BOURJOIS — SOUTHALL — ZEAL

Notes on the premises of Three Progressive Houses

IT has been the custom, of recent years, to devote space in the Annual Special Issue to descriptions of new premises acquired by manufacturers of pharmaceutical and allied products. Each of the three new works dealt with in this article is an example of modern factory design which tends to couple economic production with an increasing degree of consideration for the welfare of the workers. The days of the crowded unhealthy factories are passing, and new buildings, characterised by good light, fresh air, and ample accommodation for plant and workers, are being built in ever-increasing numbers. The text of this article is based on actual visits to the premises described, and readers will note that the illustrations appearing in the letterpress are supplemented by a series of special photographs reproduced in the photogravure section.

Bourjois' New Home

SINCE the last visit of THE CHEMIST AND DRUGGIST to the works of Bourjois, Ltd., the progress made by the productive side of this business seems to have been considerable. It may be, of course, that the scattered nature of the old London premises gave an inadequate impression of the company's manufacturing capacity, but it certainly seems, after a visit to the new factory, that production has gone ahead considerably. The new premises are situated at Queens Way, Croydon, adjoining the well-known airport, on the Waddon side. Ample ground space has been acquired, so that facilities will be available, when necessary, for expansion.

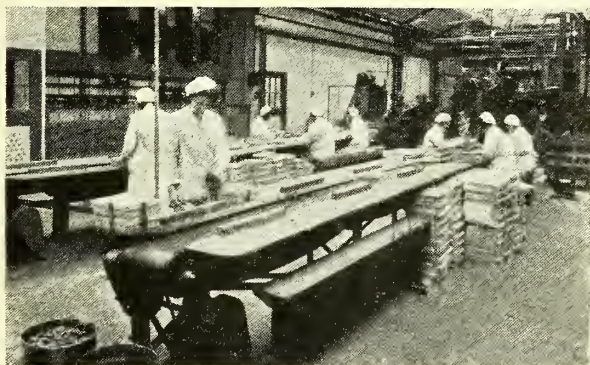
The visitor's first reaction is one of appreciation of the clean lines of the front and the well-designed entrance. After passing into the entrance hall the opportunity presents itself of examining—while waiting—some of the company's products, which are displayed in showcases recessed into the walls. The tour of the works commences at the staff entrance, and here the visitor is shown some of the facilities enjoyed by modern factory workers. First, the two elaborately equipped first-aid rooms designed to cope with any emergency; then the women's toilet rooms complete with numbered and steam-heated racks for clothes, washing fountains, etc., all



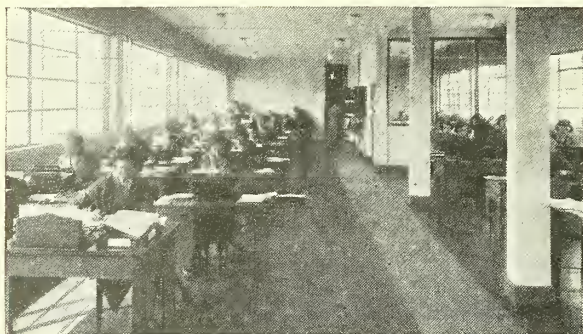
BOURJOIS: FILLING FACE POWDER

maintained in a state of spotless cleanliness. Similar conditions are available, of course, for the men. Messrs. Bourjois, it should be pointed out, realise that the simplest way to ensure production under hygienic conditions is to give the employees every facility for personal cleanliness. The visitor now enters the factory proper, commencing at the inward goods department, and passing from there to the perfumery stores. It should be explained at this point that raw materials, on entering, start on a journey which takes them through the various departments according to a definite plan and deposits them, as finished goods, at the other end of the factory. Considerable thought has obviously been expended on the evolution of this productive system, which, it is claimed, works economically and well. The next department attracting the visitor's attention is devoted to the manufacture of cardboard boxes of the plain variety; the machinery for this purpose comprises two Vickers' stitching machines, and each girl can produce about one and a half gross of boxes per hour. Then into the bottle store, where it is explained that all bottles and other containers are unpacked on delivery and then stored in trays. On the left of the bottle store is a room containing large stocks of better-class boxes, most of which are purchased.

The striking features of the perfumery laboratory, the next department to be visited, are its spaciousness and well-planned layout. Two batteries of large-capacity tanks containing perfumery occupy the centre of the room, and on each wall are sets of shelves lined with a large stock of concentrates. A stainless-steel working bench is built right round the laboratory. Spirit is stored in two 1,000-gallon glass-lined tanks situated outside, and is drawn for use as required by means of a Hammond pump which is installed in a convenient position in the laboratory. A small laboratory for use by the Excise authorities in connection with drawback on spirituous preparations for export, is built on to the main perfumery laboratory. Next comes the powder manufacturing room; the equipment here includes two powder sifters by G. & A. Cusson et Cie, and a Kek machine for mixing perfume with powder. The equipment of this department will shortly be augmented by the installation of two centrifugal sifting



BOURJOIS: SOAP BOXING



BOURJOIS: INVOICE OFFICE



BOURJOIS: PACKING AND DISPATCH

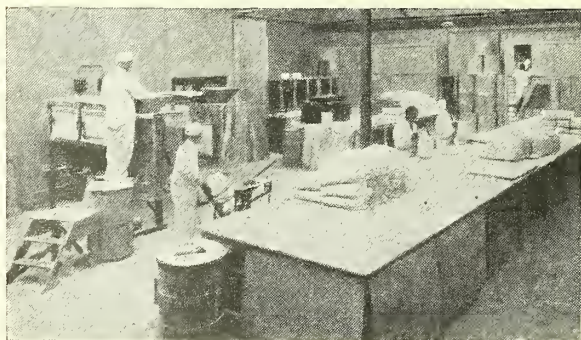
machines. The next step is powder filling, and in an adjacent room girls are busy operating Southall & Smith and Albro filling machines. The manufacture of toilet creams forms an important part of Messrs. Bourjois' business, and in the department set aside for this purpose may be seen up-to-date machinery including two Hobart stirrers and a range of fillers. The filling room is equipped with several Albro machines and one Gravfil filler, making the work of filling narrow-necked perfume bottles a matter of speed and simplicity.

At this point the visitor is introduced to the soap-making section of the new works. The main equipment consists of a continuous line plant for mixing, milling, plodding, cutting and stamping soap, and in addition there is one five-roll mill with plodder and cutter, and one single three-roll mill with plodder and cutter (for fine work). An additional five-roll mill will shortly be installed. Two batteries of hand-stamping machines are used for the better-class soaps, and one new semi-automatic stamper produces an elegant tablet which requires no trimming. Hand-stamped soap is taken from the soap-making room into a special department where it is "cured," heated drying racks being used for speeding up this process in the case of urgent orders. The soap-making section has its own laboratory and engineers' shop.

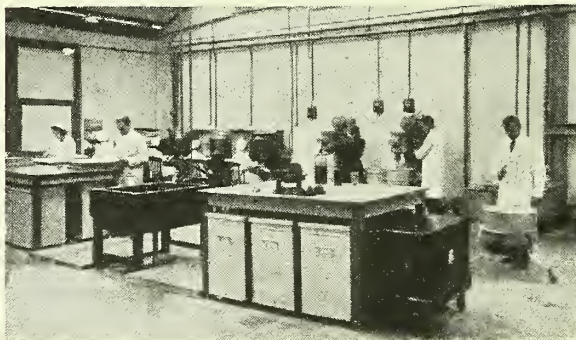
The visitor is next conducted to the largest room in the new factory—that used for "finishing." The room is divided into two sets of working benches—on the one side perfumery and on the other soap. Production on this side of the factory is maintained at a high level by means of an ingenious and practical arrangement of teams of workers. The girl employees are divided into teams, each team having a leader. At the end of every month the winning team receives extra payment, marks being awarded for good work, tidiness, etc. The progress of the competition is indicated daily, and as a result of this competitive element, which appears to be thoroughly enjoyed by the girls, production is maintained at the maximum. Moreover, in the event of rush orders, workers can be moved in teams without delay and confusion. During a tour of this

workroom the visitor sees the packing of many well-known Bourjois lines, and in one section particularly interest attaches to the special packs for the next Christmas season. So far as coffrets are concerned it is too early to give details, but it may be stated definitely that Messrs. Bourjois are "on" something special. On the soap side of the finishing room girls are busy packing the many lines manufactured by the company. The visitor is next conducted to the soap and perfumery stores, where enormous quantities of finished products await dispatch. A separate store, complete with special staff, deals with export orders. In the dispatch department system predominates, and it seems impossible for an error to escape detection—orders being subject to a triple check. The employees of Messrs. Bourjois are fortunate in having at their disposal the facilities of an up-to-date canteen in the form of a spacious, light and airy room capable of seating over 400 at one time, and served from well-equipped kitchens. This part of the tour is completed by a visit to the boiler house where a full automatic system is installed, together with a Tettbro water-softening plant. There is a large area of land (as yet unused) at the back of the factory; this will probably be made into a garden, and will be available for future extensions.

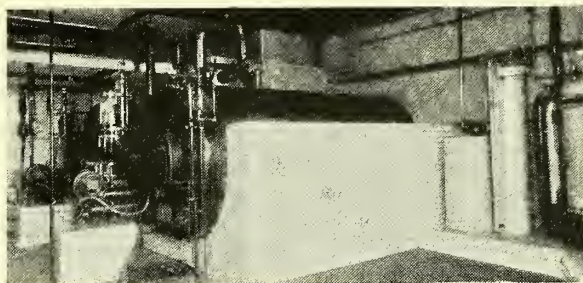
Having completed the tour of the factory proper the visitor may look in at several rooms, including the ladies' staff rest room, the works manager's office, soap manager's office, chief chemist's office, purchasing and statistical department, waiting rooms, etc., before proceeding upstairs to view the general and executive offices. On the first floor are the fully mechanised accounts departments, conference rooms, control department, executive offices, board room, etc. No expense seems to have been spared in either the decoration or equipment of these offices, the standard aimed at—and achieved—being obviously practicability coupled with good taste. In conclusion, a word as to the future; Messrs. Bourjois are now getting busy on their new line "Fiancée," a line which is already showing great promise as a worthy companion series to "Evening in Paris."



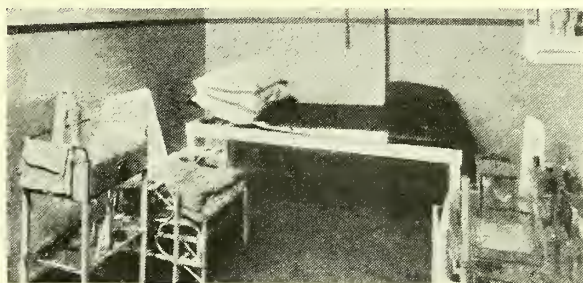
BOURJOIS: FACE POWDER MANUFACTURE



BOURJOIS: FACE CREAM MANUFACTURE



BOURJOIS: BOILER HOUSE



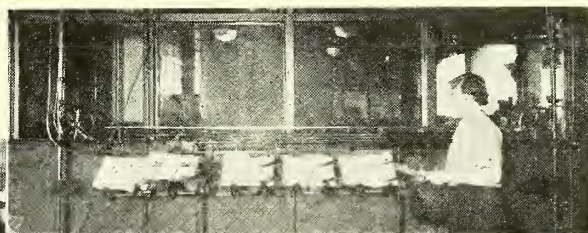
BOURJOIS: FIRST-AID ROOM

The New "Priory"

THE well-known business of Southall Bros. & Barclay, Ltd., wholesale and manufacturing chemists, Birmingham, was founded in 1820, and has to its credit a record of over a century's steady progress. The latest development in the company's business concerns the removal of the offices and warehouses from Lower Priory to extensive modern premises at Priory House, Gooch Street, the subject of this article. The new building is an imposing brick structure of five floors, with a basement and semi-basement, and considerable alterations were carried out by the company in adapting it to meet their particular needs. The internal arrangements of Priory House are designed for the speedy and accurate execution of the large number of daily orders dealt with by the company. There seems to be very little of the "hustle" usually associated with such places, but, nevertheless, the volume of business passing through is evidence of the quiet efficiency of the organisation.

The visit during which notes were made for the purpose of this article commenced when a C. & D. representative, with Mr. E. W. Mann, B.Sc., F.I.C. (director), as guide, proceeded to the starting point—the basement. In this spacious department were seen large stocks of drugs, together with an up-to-date automatic bottle washing plant and drying rooms. Bottles are usually placed in racks to dry, but for urgent orders special drying ovens are used. Most of the company's manufacturing operations are carried out at Saltley; pills, tablets, granules and suppositories, however, are among the lines made at Priory House. When the building was originally constructed a shaft was included to serve all floors; this shaft has now been adapted to act as a chute down which rubbish is passed for destruction. This small point in the arrangement of the warehouse is worth noting in that it makes tidiness—a feature noticeable throughout—a simple matter. Ethers and similar products are stored in a special room, and there is also a fireproof strong room where the company's records are kept.

SOUTHALL: Centre, LAMSON CARRIERS IN ORDER OFFICE—



—Below, left, INVOICE OFFICE. Right, CANTEN



In the pill department may be seen machinery for cutting, rounding and coating pills, and close by is the centre power room where a voltage of 5,000 is broken down to 220. The next room is devoted to the manufacture of tablets, the plant including Thompson & Capper rotary, multiple and single punch machines. At this point an interesting electric clock system was explained; this system is also used to operate the electric time signal.

Office accommodation occupies a fairly large portion of Priory House, on account of the wide range of the company's activities and the large number of customers. As an example of the business handled it was explained that some 850 invoices, with an average of nine items on each, are dealt with daily, giving a total of over 7,500 entries. The telephone exchange of nine lines is controlled by two operators, and, as part of Southall's service, every chemist within a radius of ten miles is telephoned to twice daily. The offices are equipped, of course, with the latest types of accounting machines, and cabinets supply such essential information as customers' records and orders over a considerable period. The ledger office, for example, is automatic throughout, and the visitor is fascinated by watching the machines perform intricate calculations with unflinching accuracy in a matter of seconds.

A visit was next paid to the wholesale counter, which is situated on the ground floor. Orders are placed in a Lamson tubular carrier which serves all the departments, and the goods come down on an electric lift. In the order office morning mail is opened at 7 a.m. and an hour later the orders are being circulated. Representatives from the various departments attend to copy off the portions of the orders with which they are concerned. The original order, pasted on a docket, is sent to the patent room, where the patent portion is filled, the goods being placed on a spiral conveyor; in the meantime other departments are sending their portions of the order down the conveyor, and all meet (with the original order) at the dispatch floor—the collation point.



ZEAL: THE NEW FACTORY AT MERTON

The order is then checked so that error is practically obviated. Empty containers are returned to the floors above by means of a conveyer. One of the interesting features of the order system is the use of Lamson-Paragon docket carriers—an ingenious and practical arrangement whereby dockets are picked up and carried to their respective departments (these docket carriers are illustrated on the previous page).

The patents department is situated on the first floor, and here may be seen the huge stocks necessary to cater for this side of the business. On the second floor is the drug room, with the "drys" on one wing and the "wets" on the other, the "poisons" being in the centre (also divided into "drys" and "wets"). One of the most interesting features is the sets of Avery scales, constructed to Messrs. Southall's specification, on which containers are first tared, and the pointers then reset to zero. By this means drugs can be packed without the risk of miscalculation. The D.D.A. department is also situated on this floor.

The next floor is used for packing the company's specialities, e.g., cod-liver oil, olive oil, packed goods, etc. Filling is done in most cases by vacuum, and the viscose caps used for most of the bottles are dried in a series of specially constructed cupboards; drying takes about half an hour. A Roberts' filler is used for filling A.I. olive oil into attractively shaped bottles. Other features of this floor include a complete record of own-name line styles; electrical seidlitz powder packing machine; veterinary filling room; room used for packing Vitafer—one of the company's specialities; and a department dealing with packed perfumes.

At this point Mr. E. D. Barclay, a director of the company, explained the working of the sundries department, commencing with a visit to the sponge house. Priory sponges are first-seconds specially selected, and each sponge is tallied for pricing; each tally bears a code letter of which the chemist has the key, so that the price may be fixed for individual sales. Among other interesting sundries shown in this department were face cloths and washing squares, elastic hosiery, dispensing and toilet bottles, hot water bottles—including a new model for the coming season, hot water bottle covers, tooth-brushes, soothers, enemas, feeding bottles, sponge bags, adhesive plasters, toilet rolls, nail brushes, etc. Each of these lines is thoroughly up to date in style and presentation, and represents good value to the chemist. Particular interest attaches to a statement by Mr. Barclay that last year only three per 10,000 of the company's hot water bottles were returned for any reason, a very creditable record.

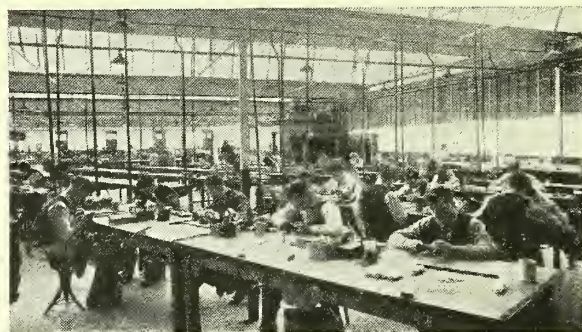
Also on the fourth floor are the analytical laboratories, where every purchase is examined for standard. A considerable outside consulting practice is also carried on. The laboratories are well equipped, the instruments seen including polarimeter, flash-point apparatus, microscope, refractometer, viscometer and tintometer. There is also a bench of electrical apparatus and an autoclave. A balance room and library are also included in the equipment of the laboratory.

On the top floor, from which a remarkable view of the city can be obtained, modern staff accommodation has been constructed, incorporating canteen, rest room, first-aid room and senior staff dining room.

Zeal's Move to Merton

FROM a factory of an older type to one incorporating the latest developments in industrial building design was the move recently undertaken by G. H. Zeal, Ltd., well known as the makers of clinical, chemical and industrial thermometers. The new premises are situated at Morden Road, Merton, London, S.W.19, and form part of a new factory estate. The building comprises one large main floor, with office accommodation in a second storey over the entrance. When a C. & D. representative visited the premises recently he was impressed by the adaptability of this organisation to entirely new conditions. A move from the city to the suburbs is not an everyday event in factory life, and it is surprising how quickly the workers can become "acclimatised" and—still more surprising—that production continues practically unchecked.

On entering, the visitor is received in the spacious hall which gives access to both factory and offices. On entering the factory it is noticed that the floor area has been the subject of a definite plan whereby the various operations are grouped; for example, thermometers are graduated in one part, the machine shop occupies another, and so on. A particularly pleasing feature is the good natural lighting which is obviously of the greatest assistance to the workers, many of whom are engaged in tasks of extreme delicacy. At the far end of the factory a number of rooms have been set aside as special departments concerned with such processes as etching, plating, lacquer spraying, engraving, polishing, etc. At the entrance end are stockrooms and offices, together with a laboratory and testing room. Electrical power is used in the machine shop, each unit having its own motor.



ZEAL: GLASS-BLOWING SHOP

Office accommodation comprises general offices and several private rooms, including the directors' rooms. An internal telephone system is used for communication between the various departments.

On taking over this new factory Messrs. Zeal have acquired several valuable assets; first, production is centralised on one floor, making for easy supervision; secondly, fresh air, good light and generally healthy conditions must eventually react on each worker's productive capacity; and, thirdly, they have shown that they believe in progress—a good omen for the future.

BRITAIN IN PICTURES.—"Great Britain: her Beauty and Achievements," published (2s. 6d., by post 2s. 10d.) by Evans Brothers, Ltd., Montague House, Russell Square, London, W.C.1, in association with "The Times," is a portfolio (15½ in. by 11½ in.) of photographic pictures, principally landscapes, in Great Britain. There are also illustrations showing public functions and industrial achievements, the whole constituting an excellent selection. Ideas for holidays may be gathered from these attractive views, and the portfolio should prove to be a useful piece of propaganda for sending to correspondents in the Dominions and in foreign countries. Some of the scenes have appeared in various issues of "The Times," the picture page of which is always of interest.

Trade Notes

TURTLE OIL toilet articles are obtainable from Dekur Preparations, Imperial House, Regent Street, London, W.1.

NEW TERMS.—Scott & Bowne, Ltd., 10 Stonecutter Street, London, E.C.4, give particulars elsewhere in this issue of parcel terms for Scotts emulsion.

BONUS OFFERS.—Dae Health Laboratories, Ltd., Cunard Road, London, N.W.10, are making bonus offers in connection with Veet. These special terms are available until July 21.

BROTHERS CHEMICAL CO. (1922), LTD., Moseley Road, Trafford Park, Manchester, 17, are specialising in the manufacture of precipitated chalk and ammonium carbonate for pharmaceutical purposes.

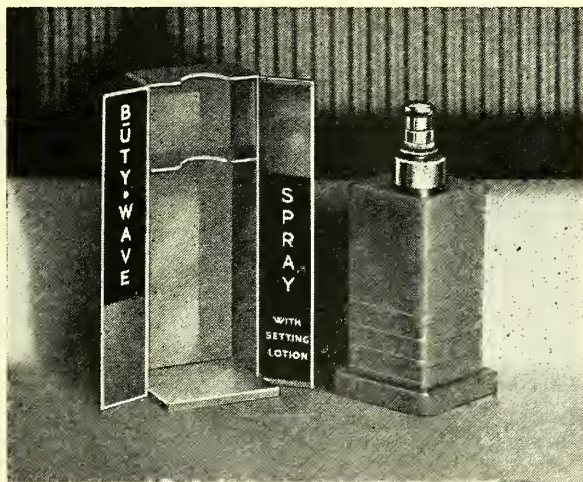
THE PEPSODENT CO., Park Royal, London, N.W.10, have available an attractive showcard to call attention to their well-known tooth paste. This display-aid, which has been produced in two sizes—25½ in. by 20 in. and 15½ in. by 11½ in.—is obtainable on request.

A. BOAKE, ROBERTS & CO., LTD., Carpenters Road, Stratford, London, E.15, have sent us a copy of their new catalogue of aromatics, fine chemicals, essential oils, compounded perfumes, and colours. In addition to prices, the list contains much information of interest to users of such products.

W. MARTINDALE, 12 New Cavendish Street, London, W.1, has issued a "special list of medicinal products." This publication is primarily intended for medical men, but chemists will find it most useful for reference, as in addition to a therapeutic index the list contains the names, composition, indications, dosage, packing and price of a large number of preparations.

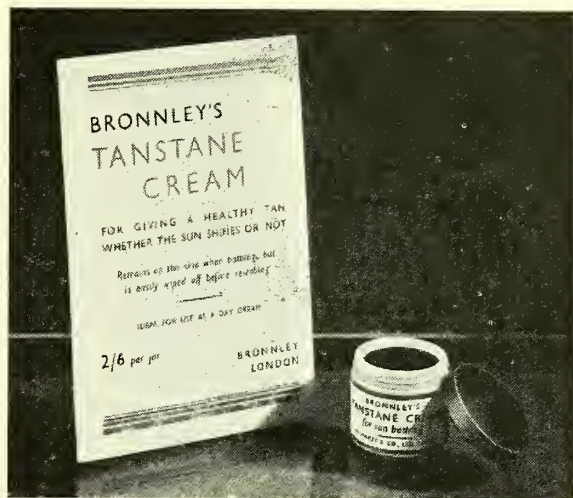
HOME PHOTOGRAPHY.—Johnson & Sons, Manufacturing Chemists, Ltd., Hendon, London, N.W.4, have added a fourth to their series of lesson booklets, the subject on this occasion being "How to make your own Bromide Prints." These publications for amateur photographers have proved extremely popular, and a supply for counter distribution will be sent to any dealer interested in encouraging this side of the business.

SETTING LOTION SPRAY.—The Butywave Co., 5 Ram-payne Street, Vauxhall Bridge Road, London, S.W.1, have brought out a new spray for use in applying setting lotion. This attractive apparatus is available in a range



of colours (three clear glass and two opaque) and is so constructed that it can be filled and carried without danger of leakage. To operate the spray the top is simply pressed with the finger.

SUNBRONZE PREPARATIONS.—H. Bronnley & Co., Ltd., Acton Vale, London, W.3, have recently introduced a new line under the name of Tanstane cream. This preparation, which is packed in the attractive manner shown in the illustration, has the same qualities as a sunburn oil, in so far as it prevents blistering and aids the sun to produce a natural tan, but it has the added advantage of permitting the user to produce an immediate and



effective bronzed appearance. Tanstane cream remains on the skin while bathing, but the surplus cream can be removed from the skin with a towel or cleansing tissue before re-robing. Having a vanishing cream base, it forms an excellent foundation for the darker and popular shades of powders, and a further point to note is that it is pleasantly lavender scented, helping to ward off mosquitoes and other insects. Besides this preparation, Messrs. Bronnley offer a sunburn oil and a sunbronze oil in bottles.

MACHINERY.—W. Rowlandson & Co., 75 Mark Lane, London, E.C.3, invite inquiries regarding their mixing, filling, grinding and sifting machines.

WORMS IN WOODWORK.—From time to time we receive inquiries from subscribers for formulas of preparations suitable for treating wood infested with death-watch or furniture beetles. There are a number of proprietary preparations on the market for treating woodwork, and our attention has recently been drawn to one, which, we understand, met with the approval of the late Professor Lefroy. It is supplied under the name of Kilpest by G. Kilpert & Co., Market Street, Wellingborough. This liquid is inexpensive, and one application of it is stated to be sufficient, though a second is advised to ensure every affected part has been reached. Kilpest is stated to be non-poisonous, non-inflammable and not to damage the polish. A showcard and advertising literature will be supplied.

CIBA, LTD.—A new company, Ciba, Ltd., 40 Southwark Street, London, S.E.1 (Telephone: Hop 1041), has been formed to take over the pharmaceutical department of The Clayton Aniline Co., Ltd., as sole concessionaires for the Ciba brand pharmaceutical specialities. The board of the new company will consist of Dr. J. Brodbeck, president, Society of Chemical Industry in Basle, Switzerland; Mr. A. E. Peak, managing director of The Clayton Aniline Co., Ltd., Manchester; Mr. J. J. Brodbeck, director, Ciba Co., Inc., New York City; and Mr. T. F. M. Smart, O.B.E., manager of the pharmaceutical department of The Clayton Aniline Co., Ltd., London. It is interesting to note that the advent of the new company coincides with the jubilee of the Ciba firm in Basle.

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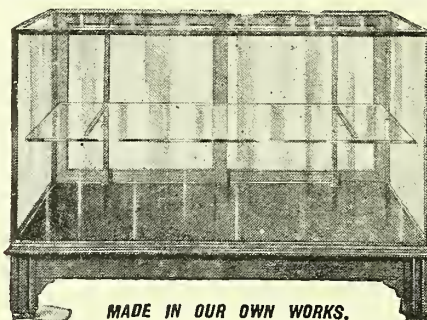
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THE
CHEMIST AND DRUGGIST

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Medicine through the Ages

FROM the time when the medicine-man was first differentiated in vocation from the magician, or even earlier, medicines of vegetable origin had one obvious advantage over those of animal or mineral origin: they were easier to obtain. Looking through the contents of this Annual Special Issue, we are reminded of the long predominance of simples, and preparations derived from them, over medicaments obtained from other sources. An Arabic manuscript of the thirteenth century (one of the oldest illustrated Arabic manuscripts in existence), based on Galen's treatise on electuaries, forms the subject of an article (pp. 728-31) by Privatdozent Dr. Otto Zekert, and is accompanied by characteristic illustrations, two of which form a colour plate. The use of the snake in medicine is exemplified in this article with curious details. From the Arabic version of Galen we pass to a general view of pharmacy as practised in England from the middle of the sixteenth century to the middle of the seventeenth (pp. 720-27). Galenical medicines were still predominant, but their supremacy was already challenged. In our Special Issue of June 30, 1928, we saw that the trading chemist had emerged as a definite entity, distinct from the apothecary and from the alchemist, as early as 1597; in this feature of commercial evolution we may not unreasonably trace the influence of Paracelsus, and we know that a lengthy pamphleteering war ensued before galenical and chemical medicine settled down together. Possibly the emergence of the chemist was a factor in strengthening the desire of the apothecary to prescribe and eventually to obtain legal recognition as a medical practitioner. His differences with the physician are referred to in our survey, which is illustrated with excerpts from several contemporary books and from a few manuscripts.

Modern Chemical Manufacture

The difference between the balance of types of remedies selected by Arabian physicians—or even by Renaissance physicians—and by those of to-day is striking; and the contrast comes to mind as we turn to the article entitled "British Fine Chemicals, 1921-1934" (pp. 774-79). This has not been compiled with any intention of being an exhaustive report on this important branch of the chemical industry. Rather is it intended to be a general review of the chief developments and achievements of the past thirteen years, fairly portraying the industry as it is to-day. This, we believe, is the first time such a review, independent in character, has been undertaken. It has necessitated a good deal of investigation, and every effort has been made to ensure accuracy. The establishment and development of the British fine chemical industry in a comparatively short period, with commercial conditions anything

but favourable throughout the world, is no mean accomplishment. It has not been simply a question of additional plant in order to increase the output of a few everyday articles; it has demanded careful planning, unending experiment, patient research and the outlay of considerable capital. The commercial interests representing the industry, and their scientific and technical staffs, have certainly justified the confidence placed in them. To-day the industry is producing a splendid range of fine chemicals of unsurpassed quality, which falls short in only a few respects of making this country, nationally and industrially, self-reliant at all times for adequate supplies of these essential products.

Leeds and Its Industries

The holding of the British Pharmaceutical Conference meeting in Leeds next month has rendered appropriate a conspectus of such activities of the city as are of importance to our readers. The comprehensive nature of the pharmaceutical industries of the city is emphasised in an article based on impressions gathered at first hand (pp. 732-45). The photographer, too, has been busy, and his "tour" is recorded pictorially in photogravure. A separate article, with illustrations, is allotted to the manufacture of glass bottles in Leeds (pp. 759-60). The imminence of the Conference has also suggested a brief historical account of the city, which from a comparatively early date has established itself as a centre of commerce (pp. 747-50): its connection with Priestley is referred to in some detail, partly on account of the intrinsic interest of everything in his career, and partly because most of the work leading up to his discovery of oxygen was done while he was the minister of Mill Hill Chapel. Some of our older readers may remember that in 1916 we published an illustrated account of the Scottish Central Checking Bureau: the Bureau, then a new departure in the functioning of the first National Health Insurance Act, has since made a good deal of history, and we have much pleasure in giving a record of its present activities from the pen of Mr. A. B. Gilmour (pp. 768-71). Modern methods of production are described in an article (pp. 761-64) on the premises of three well-known houses. The illustrations show that in new factories increasing attention is being paid to staff accommodation and welfare. The demands of the retail counter have not been overlooked: in an article on the production of sunburn and protection against its excess, our readers will find the latest practical hints on this topical subject (pp. 772-73). The exigencies of our summer climate are also recognised in suggestions for the treatment of insect bites (p. 746). As is usual, considerable thought has been given to the cover, which illustrates the inspection of pharmacies, and the pictures for the photogravure section have been selected with care from the much larger number available. Current news will be found in or near its customary position, which may be readily located by reference to the table of contents. And finally, the advertisements form a compendium of reference for the busy man which is only rivalled by our annual Diaries.

Scotland's CENTRAL CHECKING BUREAU

What it is—and what it does

By A. B. Gilmour, M.P.S., Superintendent

ALL beginnings are difficult, and the inauguration of the first National Health Insurance Pricing Bureau in Britain—and the only one in Scotland—was no exception. The intention was that the Bureau would commence work on January 1, 1915; but a question arose as to whether the Scottish Insurance Commissioners had powers to require Insurance Committees to set up such a department, more especially as the cost was to come out of the administration expenses of these committees. The Court of Session decided in favour of the Commissioners; but this legal action

designation Central Checking Bureau is really a misnomer.

In the early days the Bureau was regarded with considerable suspicion. On the one hand certain doctors took the view that it would lead to interference with their prescribing, and this, of course, they were prepared to resent. On the other hand, certain chemists thought its chief duty would be to cut down the amount of their accounts, and regarded the superintendent in the light of a poacher turned gamekeeper. Both were wrong. As regards the doctors, the duty of the Bureau is, *inter alia*, to direct attention to prescriptions which are not necessarily extravagant either as regards quantity or character, but which may usefully be the subject of consideration by the panel, pharmaceutical or insurance committee as the case may be. It is thereafter the duty of the appropriate committee to take whatever action, if any, it may consider proper. As regards the chemists, the Bureau does not determine the principles of the drug tariff or the methods of remuneration. When pricing prescriptions it only gives effect to these principles and methods.

In this almost hostile atmosphere the Bureau was faced with the duty of learning its own job and at the same time creating some kind of uniformity out of the various rules and regulations, anomalies and irregularities which existed in the fifty-six (now fifty-four) insurance committee areas; with the varying conditions in a country like Scotland, and with a daily turnover of thousands of prescriptions, it soon became apparent that in handling such a huge mass of complicated, intricate, technical detail, it was essential that the Bureau should adhere rigidly to clear and definite principles so that it could defend its actions if called upon to do so, and in an impartial manner discharge its duties to the doctors, chemists and insurance committees. As a concrete example, one of the first duties was to introduce for the whole of Scotland one wholesale price list as the standard of cost, to take the place of the eleven different wholesale price lists which were in force in 1915. At that time, and depending on the lists selected, the tariff price of the same substance could be 3½d., 4d. or even 4½d. per oz. in different areas; and, as many chemists were on more than one panel, different prices were frequently paid for the same substance, even when



MR. A. B. GILMOUR AND HIS ASSISTANT (MR. JONES)

caused delay, and when the offices were opened in Renfrew Street, Glasgow, on April 26, 1915, it not only had to tackle something that had never been done before, but it began with a legacy of arrears of about 1,000,000 prescriptions. Prior to the opening of the Bureau, the chemists priced their own prescriptions and made out their own accounts; and as it was intended that these accounts would be checked, the office was named the Central Checking Bureau. When the administrative details were worked out it was found desirable to relieve the chemists from the work of pricing the prescriptions and rendering accounts. It will thus be seen that the



THE COMPTOMETER STAFF

prescribed by the same practitioner. Having in view the national tradition for thrift, it might here be stated that so little as a $\frac{1}{2}$ d. per prescription-form represents £6,000 per annum, and that as long as the State is responsible for the cost of drug administration the need for economy is obvious.

Constitution of Committee

THE Bureau is administered by a Committee of fourteen members, which represents doctors, chemists and insured persons, and is designated The Drug Accounts Committee. Mr. J. B. McVittae, chairman of the Pharmaceutical Standing Committee on National Health Insurance in Scotland, represents the twenty-three Burgh Pharmaceutical Committees in succession to the late Mr. G. S. Kitchin, who took a very active part in the initial stages of the scheme; while Mr. J. Rutherford Hill, the resident secretary in Scotland to the Pharmaceutical Society, represents the thirty-one County Pharmaceutical Committees. These representatives have taken an outstanding interest in the administration of the pharmaceutical service since its inception, and are familiar with its many intricate phases. There are also on the Committee two other chemists, Mr. W. F. Hay, of Aberdeen, and Mr. T. Lowrie Sinclair, of Greenock, who represent insured persons.

The Superintendent

SINCE its inception in 1915 the organisation and supervision of the Bureau has been the special care of A. B. Gilmour, a pharmacist with nearly forty years' experience. In addition to the position of superintendent he also acts as clerk to the Committee. His introduction to pharmacy at the age of fourteen arose out of a request by the medical officer of health for Govan that the headmaster of Abraham Hill's Trust School should send a few boys for an interview, and he was engaged for the vacancy in the surgery. At that time surgeries kept open by boys or girls were not uncommon in the West of Scotland.

Mr. Gilmour, who passed the preliminary examination while in this employment, soon realised that if pharmacy was the goal he would require to get into a chemist's shop, and accordingly he secured a situation with Thomas Dunlop, a pharmaceutical chemist in Pollokshields, who had high ideals and took a real interest in training his employees, and has contributed articles to the scientific meetings of the North British Branch of the Pharmaceutical Society. In conjunction with his chemist's business, Mr. Dunlop also carried on a post office business; and it was probably this early training in governmental rules, regulations and methods, supplemented later by experience in another chemist and post office business, which made Mr. Gilmour more easily adaptable to the administration of what, in some respects, is a semi-Government department. He later occupied the post of dispenser in the largest mental hospital in Scotland; while there he was responsible for keeping the statutory books and documents, and this gave him some early impressions of statistics and statistical methods.

After passing the Qualifying examination in 1899, Mr. Gilmour managed the branch shop at Fort William belonging to Henry Mitchell and Son, chemists, Inverness. Thereafter he managed the branch shop at Govan belonging to Osmond & Co., of Partick. He next joined the staff of Cockburn & Co., Ltd., Glasgow,

with whom he served for twelve and a half years, during which time he was manager of their Bridgeton, Union Street and St. Enoch Square branches respectively, and while in that employment added variety to his experience by a trip to Canada as dispenser on an ocean liner. Thereafter he became general manager for Gibson & Co., chemists, Edinburgh (a firm afterwards taken over by Boots, Ltd.), and had the supervision and control of five branches. This varied experience has given him a broad outlook which is very useful when dealing with the intricacies of the daily problems that arise in a pricing bureau. Mr. Gilmour is a director of the Chemists' Friendly Society and a Fellow of the Faculty of Insurance. He is vice-chairman of the Glasgow and South-Western Scottish



THE TYPISTS AND CLERICAL STAFF

Branch of the Pharmaceutical Society, and for several years was an auditor. He is honorary treasurer to the Glasgow Pharmacy Club Building Fund, and in 1925 was honorary treasurer on the occasion of the visit to Glasgow of the British Pharmaceutical Conference.

The Premises

SINCE its inauguration in 1915 the work has steadily increased in amount and variety, and the Bureau eventually became hampered for want of space; accordingly, when it was arranged that the work in respect of the Government of Northern Ireland would be undertaken by this Bureau, it was imperative that larger premises be secured, and as suitable premises could not be had except at a greatly increased rental, attention was directed to purchasing a house in the West End. The servant problem and the convenience of motor transport made the larger houses a drug on the market—although not a drug in the sense of the National Health



THE SORTING AND STAMPING STAFF

Insurance Act. After inspecting a large number of houses it was ultimately agreed that 8 Woodside Terrace would be most suitable for the needs of the Committee, and this house was accordingly purchased on very favourable terms. A requirement which had specially to be considered, in view of the illegibility of the writing, was good lighting, the prescription-forms being often badly rubbed and crushed when received at the Bureau. There was also the question of keeping the adding and listing machines by themselves, in view of their noise, and also the need for quietness for the pricers. Having in view the division of labour and the specialisation of function,



PREPARING REPORTS FOR INSURANCE COMMITTEES

it was decided, after very careful consideration, that the work would be most efficiently, most expeditiously and most economically handled by the flow production method. It was therefore decided that the stamping and sorting staff would occupy the top floor; the pricers, the superintendent and his assistant would occupy the middle floor; the clerical staff would occupy the front portion of the ground floor; with the Burroughs adding machine operators in a room by themselves at the back.

Routine Procedure

WHEN a parcel of prescriptions is received it is sent to the top floor by a one-horse-power Waygood-Otis fool-proof electric service lift which is able to take 20,000 prescriptions at a time. It has a speed of 100 feet per minute, and can do ten journeys at a cost of

1d. for electric power. It has five openings and serves four floors, and by simply pressing a button it will start away and travel to any floor. It can also be called from any floor to any floor.

The prescriptions are now examined for irregularities, such as forms belonging to other areas or other public bodies or not properly vouched for by the practitioner. Each form is thereafter stamped with a consecutive number and a distinctive letter for each month. After stamping and arranging they are sent to the pricers on the next floor. They are next sent to the Burroughs adding machine room on the ground floor and then passed through to the clerical staff in the next room, so that in the preparation of the chemists' accounts the prescriptions flow steadily and smoothly through the whole building. The prescriptions are again sent to the top floor for sorting in doctor order, and come down through the building in the course of the preparation of the doctors' statistics. They are then packed in the hall and thereafter returned to the appropriate committee.

The work in the Scottish Bureau is probably more varied than in other bureaux, in respect that it embraces the insured population of a whole country with its densely populated cities and its sparsely populated country districts. There is also the work in respect of the insured population in Northern Ireland and the prescriptions from quite a number of public assistance committees and public health authorities. These conditions are reflected in the variety of prescribing and its corollary is greater difficulty in pricing. It has been ascertained that there are on the average $3\frac{1}{2}$ items per prescription form, so that last year almost 13,000,000 items were priced; and as the writing is not always as legible as one would like, much time is spent in endeavouring to interpret the prescriber's intention and what the chemist dispensed. It can readily be understood that meticulous care is required, more especially as any chemist in any part of Scotland has the right to challenge the pricing of any item on any prescription; and as every chemist is supplied monthly with a detailed statement of account showing the amount allowed for each individual prescription form, it is a comparatively easy matter for him to check his account if he so desires. Since its inception the Bureau has handled over 50,000,000 prescription forms and made out 400,000 detailed chemists' accounts and 130,000 quarterly statistical statements in respect of the doctors' prescribing, so that one can readily understand the necessity for the mechanical assistance afforded by the five Comptometers, the five adding and listing machines, etc. Even the reduction of 6.3 per cent., the chemists' sacrifice in the country's hour of need,

has involved 150,000 calculations. The Government's intention was that the contribution from the chemists in Scotland under the economy cut would be £10,000 per annum. It is interesting to note that for the three months October to December 1931 the 6.3 per cent. yielded £2,493 10s. 7d.; for 1932 £10,783 1s.; and for 1933 £10,569 16s. 9d. For the same period, October 1931 to December 1933, the contribution from the chemists in Northern Ireland amounted to £5,445 15s. 11d. If this description of the Bureau is compared with that appearing in THE CHEMIST AND DRUGGIST Special Issue of January 29, 1916 (pp. 139-42), it will readily be realised that the work has considerably increased in complexity as well as in volume, during the intervening eighteen years.



THE BURROUGHS MACHINE STAFF

Special Work

THE Drug Accounts Committee have never limited themselves to the mechanical pricing of prescriptions and the routine preparation of doctors' statistical data, but have always taken the view that the material passing through the office while pricing and scrutinising the prescriptions contains information of a very valuable character and should be made available to insurance committees in so far as this can be done without interfering with the routine work of the Bureau. Accordingly as certain information was required, the following reports, among others, were prepared:—

1. Memorandum on the abuses arising from the issue of "Repeat" prescriptions, and the alterations and additions made on prescriptions by chemists. "Repeats" are now disallowed by Regulation.

2. A report showing irregularities throughout Scotland with regard to the supply of drugs and appliances for emergency use, and submitting, for adoption, a model list of emergency drugs and appliances.

3. The issue of a booklet suitable for carrying in the vest pocket, recommending the use of official and official drugs, chemicals and preparations instead of proprietary drugs, chemicals and preparations, together with a list showing the commonly prescribed proprietary preparations and their non-proprietary equivalents.

4. The preparation of a standard prescription order form for all the Insurance Committees in Scotland, in place of those in use, which were of great variety in texture of paper, wording, shape, size and colour.

5. Reports showing the proprietary preparations prescribed throughout Scotland, and the areas in which they were prescribed.

6. A report on an investigation undertaken in order to ascertain the value to the chemists of the "minimum halfpenny" provision in the chemists' remuneration.

7. Investigations in different years in order to ascertain the ratio between the number of prescriptions and the number of prescription forms.

8. An investigation of all the National Health Insurance prescription forms issued throughout Scotland during one month, in order to ascertain the cost to the drug fund of drugs and appliances supplied to insured persons for the treatment of venereal disease.

9. Two investigations undertaken in order to ascertain the highest, lowest, and average number of ingredients in each prescription.

10. A report disclosing irregularities with regard to bottles used as containers for poisonous substances for external use which were paid for at the expense of the drug fund, as distinct from ordinary medicine bottles, the price of which was deposited by the insured person.

11. Report on an investigation undertaken to ascertain the cost of extract of malt, cod-liver oil, their combinations and the various emulsions which are prescribed for their nutritive as well as their medicinal properties.

12. Reports on investigations showing in respect of each burgh and county area in Scotland the cost of vaccines and serums.

13. An investigation undertaken at the request of the Scottish Board of Health in order to show:—(a) The number of prescriptions in each class of medication. (b) The number of times each size of mixture was prescribed and the dose prescribed. (c) The number of ingredients in each prescription. (d) The number of times a proprietary preparation was prescribed.

14. A report on an investigation setting forth (a) the kind, (b) the quantity and (c) the total value of the appliances ordered in respect of insured persons in Scotland.

15. Three reports representing an examination of over 500,000 prescriptions in order to ascertain to what extent opium, morphine, cocaine and diamorphine and preparations containing them were prescribed for the insured population of Scotland. These reports were commended by the Home Office, and at their request were made available to the Secretariat of the League of Nations. In this connection it may fairly be claimed that the Scottish Central Checking Bureau has performed a service not only of national but international importance.

In concluding it may be stated that pricing bureaux perform their duties so smoothly and expeditiously that few people appear to realise that this work is highly specialised and requires a high standard of training, technical knowledge and accuracy.

The photographs accompanying this article were taken by Q. R. Whyte, Giffnock.



THE PRICING STAFF

gradually changes to a natural bronze. If found necessary to remove the stain hot water and a good lathering soap are all that is necessary. After the holidays, and for those who do not intend to continue the sunbathing, there is the question of how to "renovate" the complexion, the common grievance being a peeling skin. Cleansing cream that will soften quickly when applied, followed by skin food, will repair the mischief. As the skin is tender formulas containing no borax are to be preferred.

CLEANSING CREAM

Soft paraffin (white) ...	...	...	3vj.
Liquid paraffin ...	...	...	3viij.
Beeswax ...	...	...	3j.
Paraffin wax ...	...	...	3j.
Cacao butter ...	...	...	3iiij.

SKIN FOOD

Almond oil ...	...	...	3iv.
Olive oil ...	...	...	3iv.
Lanolin ...	...	...	3ij.
Triethanolamine stearate ...	...	...	3j.
Distilled water ...	...	...	3xij.
Nipasol ...	...	...	gr. xx.
Perfume ...	...	...	as desired

Heat the oils and lanolin until the latter has melted. Bring the water nearly to the boil and dissolve the triethanolamine stearate, add the nipasol and pour into the oils, stir until the oils are thoroughly emulsified. The consistency can be increased by the addition of beeswax, or reduced by adding water.

Selling the Preparations

The chemist who pushes the sale of sunburn preparations will often be called upon to give advice on the subject of sunbathing. To derive benefit from sunbathing it is not necessary fully to expose the body to the direct glare of the sun's rays. If the tonic effect is the sole

object the best, and by far the safest, method is to use a beach umbrella, or to seek the shade of the rocks, the body being exposed to the reflected rays only. By this method sunbathing can be indulged in by all, even invalids, at all hours of the day. Without shade the most beneficial time is early morning. Exposure should, of course, be progressive as regards the period of time, and should not exceed one hour the first day. For quick tanning, choose the spot, shady or otherwise, where the warm breeze can be continually faced; wind is just as important as sunlight for the tan. Those who scorn the shade and seek the direct glare (most likely having periodical dips in the water) should be advised not to enter the sea until the last phase of the daily dose of sunbathing, and as soon as possible have a fresh water shower. To bathe first, then lie in the strong rays of the sun, allowing the salt water to dry upon the body, is asking for trouble for the beginner. This practice is the principal cause of serious skin eruptions; also often means part of the holiday being spent in bed because of inflamed and swollen muscles, or an uncomfortable stiffness of the joints. For inflammation, bathing the parts with witch hazel is most helpful. A weak solution of lead acetate is also very beneficial, but should only be supplied in small quantities, so that an eye can be kept upon the patient. Chronic cases should be passed on to a doctor. For stiff joints, accompanying the inflammation, massage with "Sunburn First Aid" is the best course—liniments should never be used. Diet plays no small part in the success of sunbathing, but this is merely a matter of common reasoning; the wise hot-weather fare, plenty of salads, fruit, and a light diet is obviously the correct thing. For the first few days intense thirst is usually experienced, especially so because sunbathing in the direct glare raises the temperature of the body; excessive drinking of iced water and soft drinks must be avoided—a chill will probably follow, or colic.

British Pharmaceutical Conference

"Rhododendron time at Temple Newsam" was the legend this week on every Leeds tramcar, which circumstance tempted a member of the Leeds Committee to visit this fine mansion again, for it is the venue of the ladies' excursion on July 18 in the morning. The rhododendrons were a little past their best, but the various varieties of the candelabra-like pumulas by the edge of the lake were at their best. Their range of colour formed a beautiful setting for the fine pair of swans. By the time the Conference comes these floral beauties will be past, but the rose gardens should then be at their best, both at Temple Newsam and in the Canal Gardens at Roundhay. Despite the proximity of coal mines (which can be seen from the hill on which Temple Newsam stands) and the hum of the colliery machinery, Temple Newsam is still "a thing of beauty" and owing to the act of the Leeds City Council in buying it may it be "a joy for ever" to the citizens of Leeds and all who come to see it. Much is to be seen in the mansion, notably the room in which Robert Darnley was born, a wonderful collection of carved ivories and the unique collection of rifles. The guide has a fine story of Sir James Ramsden and a Quaker which visitors should appreciate, as it illustrates Yorkshire shrewdness and love of bargaining.

It is one of the Leeds Committee's disappointments that owing to the fact that Parliament will be sitting Lord Halifax will be unable to come to the banquet. It may be remembered that Lord Halifax sold Temple Newsam to the City of Leeds.

Members of the Leeds Conference who have booked a sports day ticket for cricket have seats specially reserved for them. The sports committee still have some seats unallotted, but application for these seats must be in the hands of the Conference secretary by July 6, other-

wise they cannot be reserved. This privilege has been obtained through the good offices of Sir Stanley Jackson, who has also promised to be present at the banquet on July 18. The social committee hope that large numbers will be present in the Victoria Hall of the Leeds Town Hall to welcome Sir Stanley Jackson.

On the occasion of the Conference Excursion on July 19 members who are interested in roses should endeavour to see the Rose Gardens at Harrogate. They lie just below the Majestic Hotel. A passing glance will be all, perhaps, but the roses should be quite at their best, and one would have to go a long way to see a better and more tastefully arranged rose garden.

Members of the Conference are, as will have been seen by the published programmes, invited to visit the Pharmacological Department of the School of Medicine of the University of Leeds on July 18 at 4.15 p.m. The following is an outline of the exhibits which will be available for inspection:—

- (1) Laboratories and Materia Medica Museum.
- (2) Large-scale apparatus for biochemical and pharmaceutical research and teaching.
- (3) Aseptic operating theatre and sterilising apparatus; x-ray unit and photographic section and dark rooms.
- (4) Biological standards adopted by the British Pharmacopœia.
- (5) Demonstration of the methods of biological assay of drugs prescribed in the British Pharmacopœia.

Tea will be provided in the Library.

Copies of any of the science papers to be presented may be obtained in advance by those interested on application to The General Secretaries, 17 Bloomsbury Square, London, W.C.1, not later than July 5.

BRITISH FINE 1921 CHEMICALS 1934

PROGRESS OF THE INDUSTRY

THE British fine chemical industry has undoubtedly made steady progress during the past thirteen years. During this comparatively short period developments in the nature of the erection of many new plants and the replacement of old ones by the latest available, a good deal of which has been of British make, are recorded. The importance of research has been recognised by the establishment of some of the finest laboratories in the world, where highly-trained scientific staffs have continuously carried out a full programme of experiment and investigation. The result of these efforts is that to-day the industry is producing a comprehensive range of fine chemicals of unsurpassed quality, which falls short in only a few respects of making this country, nationally and industrially, self-reliant at all times. Fine chemicals may be subdivided approximately into the following groups:—

1. PHARMACEUTICAL CHEMICALS, etc., including anaesthetics, antiseptics, alkaloids and synthetic remedies; also biological and glandular preparations.

2. TECHNICAL CHEMICALS, a big class which includes solvents and plasticisers of a wide variety of types used to a large and ever-increasing extent in many of our leading industries, and rare earths such as are used in the electric filament lamp and gas mantle industries.

3. ANALYTICAL REAGENTS AND RESEARCH CHEMICALS, including the dyes or stains necessary for medical investigations.

4. PHOTOGRAPHIC CHEMICALS.

5. AROMATIC SYNTHETICS AND ISOLATES, which cover perfumery chemicals, essential oils and synthetic essences.

The health and well-being of the community is largely dependent on fine chemicals, and almost every industry uses them for manufacturing and technical purposes to a greater or lesser extent. In times of national stress they indeed become a vital factor to existence, and may therefore well be described as the products of a key industry. There has been a fine chemical industry in Great Britain for many years, but before the war it was of very restricted scope. When the war came, the country found itself in a parlous condition, as the numerous fine chemicals necessary for our hospitals and in the manufacture of munitions—and this included practically every industrial activity in the country—could no longer be obtained from the former foreign sources of supply. The vital nature of the industry was vividly brought to the notice of the country, and it was in consequence of this that, after the armistice, the Government considered how this young industry could be safeguarded against intensive foreign competition. In 1921 the Safeguarding of Industries Act was passed,

under which an import duty of 33½ per cent., called a key industry duty, was imposed on all fine chemicals. The Act has been most successful in stimulating the development of British fine chemical manufacture and has enabled great progress to be made towards placing the industry on a sound and permanent basis.

Substantial Increase

This article, which for reasons of space can deal only with the salient features and achievements of such a wide and complex field, furnishes ample evidence that the fine chemical manufacturers have justified the confidence placed in them by the Government. New companies have been formed and considerable expenditure has been incurred in making additions to plant and buildings. On a conservative estimate the capital invested in the industry has been increased by at least 60 per cent. in the last thirteen years. Production has gone up by more than 130 per cent. when judged by quantity. On the basis of sales prices there has been a substantial reduction, due partly to the decline in value levels since 1921 but also to a great extent to the cheapening of production costs arising from increased efficiency and much larger output, points of the greatest importance to consumers. The industry must now be regarded as second to none in the range and quality of its manufactures. Especially pertinent on this point is the fact that British research and analytical chemicals are now admitted the whole world over to be the equal, and in some cases the superior, of the best efforts of the long-established Continental manufacturers, with whose products almost every laboratory in this country used to be stocked in pre-war days. There is full justice for the plea that British research, to which there is now none superior, should be carried out with British chemicals. These achievements have been obtained only by the constant application of research to all branches of the industry, and it is gratifying to note that since 1921 the *personnel* of the research staffs has increased by well over 100 per cent. and the expenditure on research by 70 per cent. Remarkable enterprise has been apparent in the initiative displayed by the industry in dealing with opportunities as they arose, particularly by the commercial development of new products which have been shown to have valuable applications in industry and medicine. This has been especially noteworthy in the realm of therapeutical products which have shown themselves to be of real value in extended clinical trial. One typical example in another direction is the unique development in the field of solvents and plasticisers. Many more instances of the progress of the industry will be apparent from a perusal of the following account of the *main* developments which have taken place in the last thirteen years.

PHARMACEUTICAL CHEMICALS, ETC.

THIS main branch of the fine chemical industry has never been in a stronger position than it is to-day. Surveyed from all points it is comprehensive, efficient, modern and capable of expansion to meet future needs. Prior to the period under review there was, of course, a number of manufacturers in this country whose products were in regular demand, but, in many ways, they were restricted in their activities, with an output sufficient to meet home requirements in but a limited number of products. It must be acknowledged that to no small extent Continental makers dominated the position, particularly in the cases of many medicinal substances of an advanced character. Up to that time the British industry had done very little serious and systematic research work, except in isolated cases. The progress of the past thirteen years is really astonishing and is the due reward of a determination to make full and proper use of the assistance afforded the makers during that time. Practically every individual maker laid down a programme of development which included the recognition of the laboratory as of first importance to progress and the gradual building up of experienced and highly competent scientific staffs. The range of products now available for medicinal purposes is a definite assurance to the nation that we are now in this respect practically self-reliant.

General Fine Chemicals

A number of these products were being produced here many years before 1921, but generally only on a comparatively limited scale, and it is more in the direction of large volume output and improved quality that progress can be recorded here, although, of course, the new manufacture of a number of important products has been successfully launched. Some of the outstanding developments are well worth recording. The manufacture of bromides, as now carried on, is an instance. Up to a few years ago the makers were dependent on foreign bromine and were, in consequence, producing under unsatisfactory commercial conditions. At one time the position threatened to become acute, but with the necessary enterprise the manufacturers secured an entirely new source from which to draw the essential raw material. Bromide salts are now made from what is in effect Empire bromine, obtained from the Dead Sea deposits, and they are finding increasing favour in all parts of the Empire. Salicylates and aspirin are not new products to be produced here by any means, but the position of the home makers is no longer dominated by outside competition. The quality of aspirin now being produced is equal to the first in the world; output has increased very considerably during recent years. The home market is now adequately met with supplies of all the salts of bismuth, mercury, iodine and quinine at economic prices, and for some time shipment business in these products has been improving. The first bulk production of phenacetin and phenolphthalein in this country was recorded within the past few years, and these products are now being sold at economical prices with the makers in a position to meet all requirements.

Citric and Tartaric Acids, etc.

The manufacture in this country of these products, together with cream of tartar, has been carried on under difficulty, due mainly to fierce competition on an exposed market. Latterly some measure of relief has been obtained, but the position is still somewhat unsatisfactory. One notable achievement has been the commercialisation of citric acid manufactured from the fermentation of sugar. This development was the result of long and patient research and has done much to break the foreign hold on this market because of its control of the raw material, citrate of lime. Incidentally, it has gone towards bringing prices down from about two shillings per lb. to eightpence or ninepence. At these low prices and with a regular supply assured this acid may be used for a variety of purposes. Experiment has already

proved that it is admirable raw material in the manufacture of plasticisers and synthetic resins, besides that of baking powder, etc. The British production of cream of tartar has been substantially increased of late, improved sales in the home market having been followed by an upward movement in shipments, principally to the Empire. Tartaric acid was first produced in this country about sixty years ago; the output has been steadily developed, and to-day is greater than ever. The efforts of the makers of these products deserve recognition; they have carried on despite the fiercest competition, at times amounting to sheer dumping. The products are not accepted as "fine" chemicals in official quarters, hence the makers have not had the benefit of key industry protection during the past thirteen years.

Hexamine

Hexamine has been manufactured to some small extent in this country for some years, but only comparatively recently has it become domestically available in quantities commensurate with the home demand. There is now being produced in satisfactory bulk quantities a grade of free running crystal that conforms to the B.P. standard, which is giving every satisfaction, and is being sold at very reasonable prices. Of recent date is the production of lithium carbonate and hydroxide, which conform to a very high standard of purity; these products have quickly gained the approval of consumers. Developments in a product that may not be strictly classed as a fine chemical (precipitated chalk) have recently been made. It is no exaggeration to say that the research referred to has succeeded in elevating this product to a position in which it is recognised as having a valuable range of properties the consistency and uniformity of which can only be assured by the strictest control throughout the process of manufacture. The manufacture of chemically pure borax and boric acid is too well known and established to need comment. The manufacture of lactic acid products, based on the output of the acid in this country, is to be noted with the introduction of commercially important salts as well as the purest lactic acid, hitherto entirely imported. Chloral hydrate, caffeine, theobromine, saccharin and sugar of milk are a few other products which are being produced here regularly and in good commercial quantities.

Medicinal Products

Activity in research in this sphere of the chemical industry has been most pronounced, resulting over a period of years in widespread developments. It is not possible even to touch on all the progress that has been made, but the following brief surveys of the activities of some of the firms concerned are examples typical of the general movement that has brought this branch of the industry to such a high state of efficiency. The production of fine chemicals for the treatment of leprosy dates from 1904, when chaulmoogra oil was investigated, but the final achievement belongs to the post-war period. In the research for a substance easily administered, sodium gynocardate was introduced in 1922, and later an improved preparation, consisting of the sodium salts of a selected fraction of the lower melting-point fatty acids of the chaulmoogric series, was made available. The chief products used to-day to combat this disease are British preparations. British research was responsible for the introduction, in 1926, of an organic mercury compound (2-myristoxy-mercuri-3-hydroxybenzaldehyde), which is used in the treatment of syphilitic lepers. The nitrogen-glucoside of sodium *p*-aminophenylstibinate was introduced in 1925. The manufacture of organic arsenical compounds is firmly established in this country. It is difficult to consider post-war achievements in this direction without recalling how, within a few months of the outbreak of the great war, arsphenamine and neoarsphenamine were made available to the medical profession. The post-war development of

this research is seen in sulpharsphenamine, which was introduced in 1925. This substance does not replace neoarsphenamine, but it can be used in the treatment of children and where a simpler routine treatment is desired. A wide range of arsenicals of this class has been introduced by various makers, as the outcome of their research work. Another organic arsenic compound, 3-acetyl-amino-4-hydroxy-phenylarsonic acid, was introduced in 1926 and is used for amoebic dysentery. In 1930 attention was drawn to the active principle of kurchi bark as an alternative to emetine in amoebic dysentery. Investigation was undertaken, resulting in kurchine hydrochloride and kurchine bismuth iodide being produced.

Ergot, Digitalis, etc.

The field of chemistry of ergot was so thoroughly investigated before the war that it might have been considered unnecessary to continue further research. Nevertheless, in 1925, a new salt of ergotoxine was made available, namely ergotoxine ethanesulphonate, which, it is claimed, is the most stable salt of ergotoxine. Thanks to the public-spirited action of the original producers, who surrendered their patent rights, this new salt is now official in the British Pharmacopœia. The achievements in elucidating the active constituents of digitalis are something of which the British fine chemical industry may well be proud. In 1928, for the first time, it was possible for the medical profession to administer a medicament which presented all the active glucosides of *digitalis purpurea* and, unlike tinctures, it was stable. The recent introduction of digoxin, a glucoside produced from the leaves of *digitalis lanata*, promises to solve the digitalis problem which has so long vexed the medical community. It is a pure crystalline substance and physiological assay, therefore, is unnecessary. Much valuable work has been done resulting in gratifying progress in regard to the isolation of the alkaloids of ephedra. The plant ephedra contains a number of closely related alkaloids, of which ephedrine is the most important. This alkaloid is isolated in very large quantities in this country. In addition, there is dextro-pseudo-ephedrine, which was recently investigated by the Therapeutic Trials Committee of the Medical Research Council. This alkaloid is now available commercially.

Insulin

The discovery of insulin was made during the period under review, and it is generally accepted that this was one of the outstanding medical discoveries of the century. When originally introduced to the medical profession insulin was much more toxic than it is at present, owing to impurities which were with difficulty removed. In addition, there was the disadvantage that the price to the patient was almost prohibitive. Thanks, however, to research work which resulted in reduced cost of extraction and improved methods of purification, the price has been steadily reduced to its present low figure, and it can be stated practically with certainty that no diabetic patient to-day need go without British insulin because of its cost. The standard reached by British insulin is an exceptionally high one. It is now successfully meeting foreign competition on this market and overseas, receiving, as its purity merits, ever-growing recognition and favour.

Vitamins

Some firms have specialised in the preparation of substances of biochemical interest, notably the vitamins and the hormones. In numerous instances this work has been entirely pioneering, particularly in regard to vitamins A, C and D and E concentrate. The manufacture of vitamin products is one of importance in this country. The first vitamin to be prepared pure was vitamin D, immediately as irradiated ergosterol and now available in a pure state as calciferol. The isolation of carotene, which is the yellow pigment occurring in many foodstuffs, typically in carrots, followed, and this substance is apparently the precursor of vitamin A in the vegetable

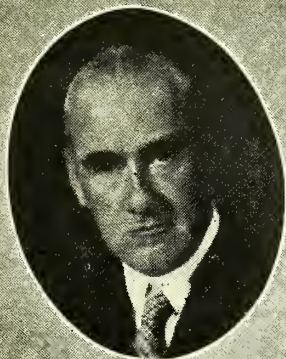
kingdom. Vitamin C has recently been isolated in a pure crystalline condition from natural sources. It has also been prepared synthetically. This substance appears to be identical with ascorbic acid. Other substances of biochemical interest are glutathione, adenosine, tyrosine, alanine, cystine, adenylic acid, glycine, etc., which are now available to research workers. The discovery in about 1926 of the treatment of pernicious anaemia by means of raw liver was followed by the introduction of dry and liquid extracts of liver; to-day production is general and of high efficiency, the products being subjected to searching clinical tests before issue. Here again, a number of similar products are available under proprietary names.

Biological Testing

Due to the recent developments in organo-therapeutic products, many of which can only be standardised by biological means, the makers of these products have found it necessary to enlarge their bacteriological and pharmacological laboratories, and the scientific staffs have been augmented. The value of biological testing of such products as digitalis and its preparations is generally recognised and has led to this method being gradually extended to ergot, strophanthus, squills, etc. Cultural experiments in pyrethrum, which were commenced a few years ago, have been conducted with remarkable success, and methods of chemical and biological tests have been elaborated in the research departments so that supplies of pyrethrum and powdered pyrethrum of a definite insecticidal power are available to manufacturers of agri-horticultural and household insecticides. Considerable research has been devoted to the development of antiseptics with a high disinfectant power. One of the most interesting of these is amyl-meta-cresol, which has a Rideal-Walker co-efficient of 250. It is used in solution as a dental antiseptic and mouth wash and also administered orally in capsules. While it would serve no useful purpose to include with this survey long lists of products being produced here, it may be of interest to quote one or two fair examples of increased output, etc. In one instance the makers have recorded that the volume of their trade in fine chemicals has increased to 4½ times that of 1921, and their works and staffs have increased accordingly. In another instance a manufacturer's sale of fine chemicals during 1933 of descriptions not made by them in 1919 amounted to 1,710,000 lb. In all directions the number of products being manufactured to-day is substantially greater than that of 1921.

Some Well-Known Products

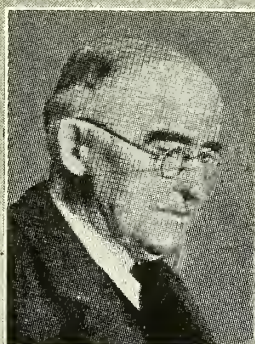
The unsurpassed quality and high reputation of British-made alkaloids of opium and nuxvomica, and of anæsthetic chloroform and ether are too well-known to need comment. The latter is now made from duty-free ethyl alcohol as well as from methylated spirits. Cocaine, supplies of which up to a few years ago had to be largely imported, is now being produced here; supplies of the alkaloid and the hydrochloride being sufficient to meet home demands and a good deal of the Empire markets. Another product which was formerly a hundred per cent. import is santonin. Production was undertaken here a few years ago, and, despite terrific foreign competition, is still being carried on. Other typical productions are molybdates, citrates, medicinal glucose, peptones, sodium morrhuate, zinc and cadmium guaiacolsulphonates, magnesium phosphate (tribasic) and chlorbutol. A wide range of hypnotics and anæsthetics have been placed on the market under names that have become well known. A large number of the lesser known salts of bromine and iodine have been introduced. Potassium bromate is being manufactured here competitively. Methyl stannic iodide, methyl stannic lactate and tin sulphur iodide are other new products, and more recently bromoform and casein iodide have been put on the market. The very wide range of medicinal products which formerly had to be obtained from foreign sources has been reduced year by year; British products are now available, which, in quality and price, reflect the efficiency of the industry.



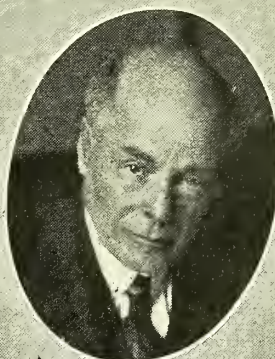
MR. C. A. HILL
(The British Drug Houses Ltd.)



DR. H. A. MITCHELL
(Evans' Biological Institute)



SIR HENRY WELLCOME
(Burroughs Wellcome & Co.)



MR. F. W. GAMBLE
(Allen & Hanburys Ltd.)



LORD TRENT
(Boots Pure Drug Co. Ltd.)



SIR HARRY MCGOWAN
(Imperial Chemical Industries Ltd.)

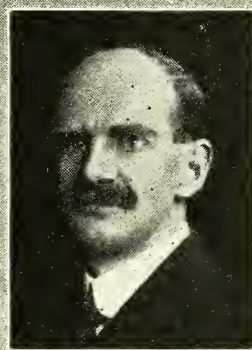
Some Personalities in the British Fine Chemical Industry



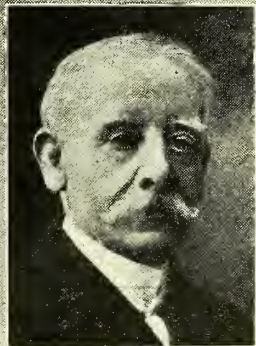
MAJOR T. KNOWLES
(Mancroft Chemical Works Ltd.)



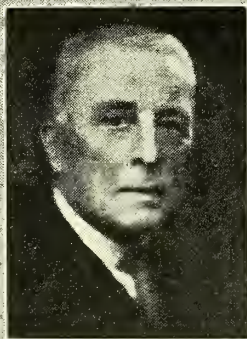
MR. T. H. BOARD
(British Industrial Solvents Ltd.)



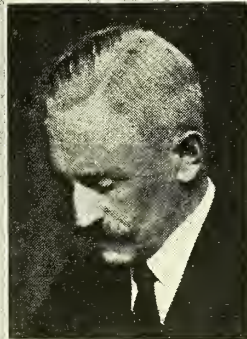
MR. E. BERNARD COOK
(Johnson & Sons Mfg. Chemists Ltd.)



THE LATE MR. W. GEORGE WHIFFEN
(Whiffen & Sons Ltd.)



MR. JAMES M. BUSH
(W. J. Bush & Co. Ltd.)



MR. E. J. BOAKE
(A. Boake, Roberts & Co., Ltd.)



MR. ALFRED G. HOWARD
(Howards & Sons Ltd.)

Photos by Elliott & Fry, Ltd., Lafayette Ltd., The Wykeham Studios Ltd., Thos. Fall, Lenare, etc.

TECHNICAL CHEMICALS

DEVELOPMENTS in this branch of the fine chemical industry during the past thirteen years have been particularly notable. Hitherto the output was severely restricted. A somewhat limited range of products was being produced by a few firms and then mostly in the nature of a sideline. It has to be admitted that up to that time the manufacturing industries of this country were far too dependent on foreign sources of supply. On the one hand there was a certain amount of prejudice against British-made technical products, which happily does not exist to-day; on the other hand, the chemical industry as a whole was not nearly so well developed as it is to-day, and many of the by-products from which technical chemicals are made were not available. Further, the strength of the well-established foreign manufacturers and their hold on this market was such that the prospects of producing here were anything but encouraging. Since 1921 a number of the leading chemical manufacturers in this country have taken an active interest in this highly scientific branch of their industry, and it is interesting to note how, in this instance, the production of one group of products is associated with another; the economic manufacture of both groups being dependent on each other. For instance, the manufacture of the derivatives of benzene and toluene, such as nitro-compounds, amino compounds, diamino compounds, and nitro-amino compounds, and the more elaborate derivatives of toluene and anisidine, which are now being regularly carried on here is directly connected with the production of certain intermediates, dyes and explosives chemicals. During the period in question the range of special petroleum products used for manufacturing purposes has been considerably increased, and the processes of refining and blending have been improved, resulting in a much higher quality being attained. These products are now manufactured to such a degree of purity that all unwanted constituents liable to react chemically with other materials are removed. This has enabled consumers to standardise their finished articles, a matter of great value to the boot and shoe trade, tyre and rubber, degreasing, deresination, fat and seed extraction, paint, varnish and cellulose lacquer industries. Spirits having very close range boiling points of 5° to 10° C. are now available for special purposes and the range of petroleum ethers for laboratory and similar work has now been extended to some thirty different varieties. The distilling plants have been modernised, resulting in increased speed of distillation and better yields from the crude materials.

A Range of Solvents

Another instance of inter-dependability is illustrated by the establishment in this country a few years ago of the manufacture of a splendid range of solvents from the freely available supplies of ethyl alcohol. Hitherto, the many leading manufacturing industries which used huge quantities of acetic acid, acetone and butyl alcohol as raw materials were almost entirely dependent upon imported supplies. The dangers of this situation were made clear in the early days of the war, when an acetone factory was hastily erected to meet the pressing needs of the manufacturers of cordite. The growing importance of the cellulose and acetylene industries, and the vastly increased consumption of aeroplane dopes within recent years has made it a national necessity that ample home supplies of these technical products should be available. A series of processes for the conversion of ethyl alcohol by catalytic methods into acetic acid, acetone, butyl alcohol, di-acetone alcohol, butylaldehyde, paraldehyde, are now being operated, resulting in many of our leading manufacturing industries being assured of adequate supplies of these raw materials, and the nation safeguarded in time of stress. Amyl acetate is being manufactured here; plasticisers, such as tricresyl phosphate and artificial resins in the form of glyceryl abietate and glyceryl phthalate are being regularly produced to meet a growing demand. In one important works, where some knowledge of catalytic hydrogenation

had been acquired, a programme of development was launched in 1921, the first step being the production of isopropyl alcohol; this was the first large-scale hydrogenation product. Some two years later the same works commenced the hydrogenation of phenol and the cresols, which led to a group of bodies, alcohols, ketones, esters, etc., which have met with an ever-increasing demand in the solvent industry, due to the tremendous developments in cellulose lacquers. Having in this way created the nucleus of a solvent factory, further expansion was planned so that, in addition to numerous derivatives of the cyclohexanol group, other solvents such as diacetone alcohol and ethyl lactate were manufactured. Catalytic work was also extended to processes using spirits as starting material, and later the production of acetal, etc.

Formaldehyde

The manufacture of formaldehyde in this country has been established despite many disappointments and in the face of insistent competition. Although at first deemed to be a synthetic organic chemical in official quarters, the assistance thus afforded the manufacturers was cancelled in 1923, to be followed by a period of uneconomical prices, due to the heavy importations of foreign material on a free market. Production, however, continued and amounted to about 800 tons in 1925. In 1926 the sales rose to practically one thousand tons, but no appreciable advance was made until 1928, when the benefits to be derived from the high quality of the British product were beginning to be appreciated by consumers generally. Some four years later full protection was afforded the home makers, but later on, in order to comply with the Anglo-German trade agreement, the assistance was substantially modified. Of recent years production has been steadily increased and sales prices have been reduced from time to time. There are but few industries in which formaldehyde is not used directly or indirectly. The recently developed synthetic resin industry is, of course, an outstanding example, and huge quantities are consumed in the dyestuffs, leather and disinfectants industries.

Hydrogen Peroxide

Hydrogen peroxide, first made in bulk for the straw hat trade, has now a much wider and steadily increasing range of uses. The period under review has seen first the improvement in quality and stability of the product made by the barium peroxide process, and later the production of increasingly concentrated forms by the electrolytic method. This modern process has led to greater purity of the product. During the past few years production in this country has increased substantially and prices have been reduced.

Industrial Requirements

Amongst other important technical chemicals being produced here in good quantities is synthetic camphor; a more recent development is a home source of resorcin of satisfactory quality. A few typical products which are available in bulk quantities of B.P. quality are benzoic acid, hydrochloric acid, sulphuric acid, nitric acid, ammonium carbonate and bicarbonate, sodium hydroxide and sodium benzoate, and the majority of these products are also made to conform to reagent standards. A new process for the manufacture of sodium carbonate monohydrate has been evolved, resulting in a product of extreme purity and in three sizes of crystal being put on the market. This product is proving of general interest to makers of pharmaceutical and reagent chemicals, etc. The introduction of home-produced supplies of dichlorethylene for low-temperature extraction of fatty matter in the process of manufacturing pharmaceutical gland extracts, etc., has proved highly successful. Metallic soaps, driers, deodorisers and ester gums used in the manufacture of paints, varnishes, lubricating oils, polishes, etc., are freely available. Intermediates

for the dyestuffs industry such as ethyl aceto-acetate, amyl alcohol, benzyl alcohol, liquid SO_2 and sulphites are regular productions. The tannery and textiles industry are well supplied with sulphonated oils and emulsifiers, and, possibly the most important advance is the splendid range of cellulose lacquers being produced in huge quantities for aeroplane fabric, furniture, toys, internal and external decoration, particularly of ships, railway carriages and motor bodies, the leather and linoleum industries, etc. One firm specialises in the production of chemicals for industrial use of a very high degree of purity, made to the requirements of the consumers. It is no small achievement to be able to supply such products in bulk quantities and at short notice, where it is becoming common for the limit of impurities

to be 0.0002 per cent. More and more the highly developed industries of to-day are demanding chemicals approaching this exceptional order of purity; not infrequently, the success or failure of the ensuing process in which the chemical is to be employed, depends upon this very high standard being maintained. The manufacturers of technical chemicals have spared no pains in research and experiment in order to make their products second to none in quality and to put them at the disposal of industrial consumers at fair prices. The advances made in the metals, textiles, furniture, leather, glass, paint, varnish, lacquer and other leading industries is perhaps the best testimony to the efficiency and enterprise of the manufacturers engaged in this branch of the British fine chemical industry.

ANALYTICAL REAGENTS AND RESEARCH CHEMICALS

UP to the post-war period the inadequacy of home sources of supply was possibly more pronounced in the case of these scientific products than in any other branch of the chemical industry. Even the limited range of the more common laboratory products being made were in many instances nothing more than recrystallised and refined imported products. In 1921 the position showed but little improvement; in fact, with the market left exposed to renewed competition from the Continent this costly and unremunerative branch of the industry was threatened with extinction. However, the manufacturers were encouraged by being afforded a period of assistance in which seriously to undertake production and establish themselves. It is hardly necessary to dwell on the importance of analytical and research chemicals. Scientific control is everywhere extending in industry, with modern manufacturing plants provided with laboratories for the examination of raw materials, the checking of partially processed materials and the testing of finished products, and in this work chemical analysis plays a prominent part. Unless the reagents used are themselves of adequate purity the whole of the analytical work may be false and misleading. Monetary values of thousands of pounds may be involved in such analyses, as, for instance, when a furnace full of steel is held waiting for the chemists' report. Analytical reagents play a part in the successful conduct of an industrial nation's affairs which is out of all proportion to the small monetary value of the reagents themselves. Over a period of thirteen years the limited number of important firms specialising in making these products have made wonderful progress. In one instance some two hundred products, which cover almost every requirement of chemical analysis, are being regularly produced, which conform to a definite specification governing purity, and from time to time the stringency of these specifications has been increased, resulting in a truly astonishing degree of purity being reached. Although sold to a specification, this really denotes the minimum degree of purity. Innovations in physical form have been introduced. Practically all crystalline solids are now produced in small granular form, the linear dimensions of which are one or two millimetres. This type of reagent is of a very high degree of purity and is easy and accurate in handling. The caustic alkalis have been made available in small pellets, each weighing about 0.2 gm. and have almost completely replaced the stick form.

Organic Reagents for Metals

During the past seven or eight years this class of reagent has achieved considerable prominence and two or three firms have been pioneers in perfecting their productions in order to bring them up to the required exceedingly high standard. In one instance a range of such products which are specific to one metal or to a group of metals is being produced, some of them being capable of detecting as little as one twenty-five millionth

part of the metal concerned. Another example is sodium diethyldithiocarbamate, which is capable of detecting one part of copper in 100,000,000 parts of solution. Further, the reactions frequently result in the production of deeply coloured compounds, whereby the employment of colorimetric technique is rendered easy and exact. The value of such reagents does not need to be emphasised in the light of recent work on alloys, catalysts and in physiology. Technical literature on these products has been compiled by the manufacturers describing the methods by which they are used; the analytical details given having first been proved in the research laboratories.

Fine Organic Chemicals

Developments in the production of fine organic chemicals—a branch of the industry in which this country had been apparently backward—can be recorded. Such compounds as the aliphatic amines, dimethylglyoxime, the salts of hydroxylamine and hydrazine, malonic, aminoacetic and hippuric acids, and many others have been rendered available to scientific workers in high purity and at moderate cost. It is not necessary to dwell on the importance to many industries of hydrogen ion concentration, its control and its maintenance at optimal values. For these purposes indicators of a high degree of purity and correct composition are required, and also a series of chemicals for the preparation of buffer solutions; that is, solutions of constant and accurately known hydrogen ion concentration. Indicators are being regularly produced and have found favour in all parts of the world, including those for pH determination, and for oxidation and reduction phenomena. Microscopical work and micro-analysis are provided with the required reagents, the demand gaining ground in all parts of the world. The research grades of the commoner mineral acids have been developed, and at least one manufacturer has specialised in a range of the finest grades available. One of the leading fine chemical manufacturers has introduced a very considerable number of laboratory chemicals of all descriptions, claiming to have increased their range from 3,200 in 1921 to 5,500 to-day, an increase of over 70 per cent. In another direction plant and apparatus and a staff of chemists is engaged in preparing research chemicals for special purposes, which include such products as ethyl cyanacetate, ethyl malonate, malonic acid, chlorquinoline, methyl toluene sulphonate, etc. Throughout this branch of the fine chemical industry systematic research has been carried on during the years under review; new plants have been erected and others have been modernised, equipment and apparatus of the latest design has been installed and the staffs engaged in the laboratories and works are highly trained and experienced. Such progress has resulted during a comparatively short period in placing British analytical reagents and research chemicals in the forefront of the world's productions, a position gained by their purity and reliability.

PHOTOGRAPHIC CHEMICALS

WHILE the range of products in this branch of the fine chemical industry is somewhat limited compared with, for instance, those of reagents or pharmaceutical chemicals, their importance for scientific and technical purposes does not need to be stressed. In times of national peril adequate home sources of supply are equally as important as that of armaments; in fact, they are an essential part of a nation's equipment for modern warfare. During 1914 and 1915 it became apparent that photography was of paramount importance to our Forces; yet, at the outbreak of hostilities, every ounce of developers, such as metol, amidol, hydroquinone and paramidophenol then available had been imported from the Continent, and these stocks were soon exhausted. X-ray equipment was useless without supplies of the necessary chemicals. Then came the entirely new but vital need for aerial photography. The position was so acute and fraught with danger that the Government undertook the manufacture of these coal-tar developers. Success was not easily attained, and it was some considerable time before even limited supplies were forthcoming. Upon the cessation of hostilities in 1918 the industry was left to meet a determined attack to recapture this market and virtually to wipe out production in this country. These difficult times had a crippling effect, but later, in 1921 and the following years, the manufacturers began to make headway and eventually succeeded in meeting domestic requirements with regular supplies of a growing range of products. There remained, however, one of the most important developers, namely, hydroquinone, which, up to 1932, was only being produced here in negligible quantities. From that time onwards the manufacture of this product has been successfully carried out, the quantities available and the quality meeting a growing demand.

The manufacture in this country of gallic acid and pyrogallac acid was carried on in the early years of this review under very difficult conditions, but in due course production became well established.

National Safety Assured

The programme of the manufacturers of all these vital products has been one of progress, and there is no doubt that this branch of the chemical industry, inaugurated in 1916 with the manufacture of metol, and which was still of minor importance up to 1921, is now so well established that the country need have no fear as to the future, or of a recurrence of the unsatisfactory position experienced in 1914, always provided the industry is not left to meet uneconomic competition. Another photographic chemical of importance is sodium sulphite, which is being manufactured in its purest form. The plant is exceedingly modern and the output and sales to all parts of the world have shown a steady increase. The crystalline product consists of true individual crystals, while the anhydrous quality is unusually pure, as it is exsiccated from the crystals. Sodium hyposulphite is, of course, a standard and well-known production of importance. The manufacture in this country of this important group of fine chemicals has had a far-reaching effect, enabling valuable by-products to be utilised, so that other chemicals are being manufactured which previously were largely imported, and these in turn are assisting other industries. The untiring efforts of the manufacturers, combined with the patient research work of the chemists, has succeeded in establishing a branch of the chemical industry whose products would prove of inestimable value to the nation in times of aggression.

AROMATIC SYNTHETICS AND ISOLATES

DURING the years under review production of these important groups of flavouring and perfuming materials has steadily increased. The range of products manufactured, which was formerly negligible, has been progressively extended. To-day, the two or three leading makers who have specialised in this branch of fine chemicals are regularly turning out a comprehensive range of aromatic synthetic chemicals and isolates. The essential point of quality has been overcome with the consuming industries now well satisfied, and, with continually increasing demands over a period of years, sales prices have been substantially reduced. It can be said that the makers are now competing successfully, both in respect of quality and price, with the long-established Continental manufacturers. The plants and apparatus now in general use for production on an adequate commercial scale are modern and efficient and the staffs have excelled themselves in the results they have achieved. Experiments and research are continuous with the object of improving methods of production, adding to the number of materials manufactured and generally meeting the unceasing demands for variety on the part of consumers.

Vanillin and Coumarin

One of the chief products to which reference must be made is vanillin. Production was first undertaken in this country some years prior to 1921, but the output was restricted on account of foreign competition. The position to-day is almost completely reversed with the production capacity of the plants operating now fully equal to the home demand, in addition to which exportation, principally to the Empire, is gradually making headway. It was in about 1921 that production of coumarin was first commenced and perfected in this country, and, despite persistent and sometimes acute foreign competition, the venture is proving successful. In the course of progress products of importance and general use such as anethol, amyl cinnamic aldehyde,

eugenol, geraniol, heliotropine, ionones, linalyl acetate and terpineol, were added to the list of productions. The home sales and exports of these products now represent a considerable turnover. A few other products worthy of mention are musk xylol, ketone and ambrette, phenyl ethyl alcohol, benzophenone, ethyl aceto-acetate and a comprehensive range of aldehydes. Each of these represents a manufacturing process of much complexity, four, five, six or even more intermediate stages being necessary. A high state of technical efficiency has been attained with an output of products of the required quality and variety available to consumers at keenly competitive prices.

Perfumery Products

The close association with perfumery of essential oils and certain fine chemicals has led to systematic investigations of the preparation of isolates and their esters and in due course to the manufacture on a commercial scale of perfumery chemicals. The number of such products now manufactured in this country is very considerable. Amongst other materials in this class the following are typical examples: rhodinol and iso-eugonol safrol and cineol, all of which are being produced in good quantities and of exceptional high standard in quality. A thorough experience has been gained in the preparation of fruit and vegetable extracts, the distillation and fractionisation of essential oils, and these, together with the wide range of synthetic chemicals, have proved particularly satisfactory in the blending of new and attractive types of perfume compounds and bases for the toilet and cosmetic trades. The demand for essences—soluble and concentrated—flavouring extracts for various foodstuffs, fruit extracts, high-class toilet soaps and all descriptions of cosmetics has, of recent years, been steadily increasing, and the requirements of the manufacturers of these commodities have been well catered for by the aromatic synthetic and isolates group of the British fine chemical industry.

Trade Report

Where possible scales of prices of chemicals are given for bulk down to small quantities. Prices recorded for crude drugs, essential and fixed oils and coal tar products are for fair sized wholesale quantities. Qualities of chemicals, drugs, essential and fixed oils, etc., vary, and selected brands or grades would be at higher values

28 Essex Street, W.C.2, June 27

DESPITE the disturbed conditions in Central Europe business, both home trade and export, has been fairly satisfactory, and the tendency for prices to harden, particularly for shipment, is still in evidence. Some shippers are reporting that difficulty is being experienced with regard to shipments to Central Europe, the buyers apparently being unable to take up the relative documents, due, it is stated, to exchange restrictions. The pharmaceutical chemicals market has been rather quieter, possibly due to stocktaking. Seasonal products, however, meet with a sustained demand. THYMOL prices may be advanced in the near future. In crude drugs the chief feature is the shortage of spot stocks of a number of products, and, at the same time, very little offering for shipment. This position is no doubt due to the unremunerative prices ruling during the past year or two and the consequent short gathering of crops. BUCHU, BURDOCK ROOT, CASCARA SAGRADA, DAMIANA LEAVES, HENNA, QUILLAI BARK and DERRIS ROOT are a few instances. MENTHOL is gradually picking up, and there has been more business this week. CHAMOMILES are very scarce and firm. Zanzibar CLOVES are steadier and fractionally dearer. New crop SENEGA is now being quoted. TRAGACANTH is steady. CARNAUBA WAX is dearer. Business in essential oils has been maintained on last week's better scale. The sharp upward movement in American natural PEPPERMINT is a feature, due to crop shortage owing to drought. The Japanese oil is also steadier and at a slight advance. French Guinea ORANGE is dearer for shipment and spot has also been advanced, but is still offered at under the current forward quotation. SPEARMINT is reported sharply dearer. There seems to be a scarcity of spot supplies of LEMONGRASS and higher prices are being asked. Java CITRONELLA is a poor market at low figures.

Exchange Rates on London

The following rates were quoted at the opening on Wednesday morning: AMSTERDAM, 7.41½. BERLIN, 13.00. BRUSSELS, 21.53. COPENHAGEN, 22.39½. MONTREAL, 4.98½. NEW YORK, 5.03½. PARIS, 76½. STOCKHOLM, 19.40. Bank rate 2 per cent.

Pharmaceutical Chemicals, etc.

WITH the stocktaking period at hand the market has been generally rather quieter. Prices quoted are fairly steady. ASPIRIN continues steady and in average demand: five cwt., 2s. 8d., up to 4 lb., 3s. 2d. per lb. Tablets are at the recently introduced scale. There has been a fair inquiry for BROMIDES, prices steady. British makers' quoted prices for CITRIC and TARTARIC ACIDS and CREAM OF TARTAR are holding steady; seasonal business with dealers competing keenly. HEXAMINE, free running crystals, are quoted at 1s. 8d. up to 2s. per lb., as to quantity. HYDROQUINONE is about steady and in fair demand for spot material. LITHIUM SALTS are well held at the recent advance. Makers' prices for MERCURIALS are firm. SALICYLATES are all about steady but rather quiet. Some small spot parcels of PHENACETIN are offered at cut prices, while bulk quantities are at full rates. PHENAZONE is rather steadier. PHENOLPHTHALEIN continues at the agreed prices on quotation. The convention is due to expire at the end of this month, and it is not yet known whether it will be renewed. QUININE SALTS are governed by rates of exchange and prices are steady. SANTONIN is being offered at declining figures; business is of little importance. STRYCHNINE SALTS continue at the advance recorded last week. SULPHONAL and METHYL SULPHONAL are steady at dealers' sterling scale of prices. Makers' scales of prices for BISMUTH SALTS, IODIDES, CITRATES and FERRI QUININE CITRATE are holding at former figures. THYMOL: British makers' prices are unchanged. It is reported it is proposed that prices for Continental material may be advanced substantially.

Crude Drugs, etc.

AGAR is dull and steady for shipment. BUCHU continues to be inquired for, with the remaining stocks of fair to good green rounds held firmly for full prices. No ovals available. CHAMOMILES are running very short, with practically no good white flowers left; new crop expected in the middle of

August. Zanzibar CLOVES are dearer, with spot at 5½d. and July-September shipment at 5½d. per lb., c.i.f. Norwegian COD-LIVER OIL for shipment is quiet but steady at about 91s. per barrel, c.i.f. Newfoundland and British oils unchanged. DERRIS ROOT continues firm at recent advances; spot, 11d. to 1s. and upwards, as to test. DAMIANA LEAVES short, with spot in small lots at 1s. 8d. per lb. GUM ACACIA is a strong market, with shipment for Kordofan cleaned sorts about 33s. 9d., c.i.f., and spot at about 36s. 3d. per cwt. MATTO GROSSO IPECACUANHA is quiet, with spot about 4s. 4½d. to 4s. 6d. per lb. New crop CASCARA SAGRADA for shipment is firm at 32s. 6d. per cwt., c.i.f., for car-load lots. Supplies of HENBANE are very short; new crop offers are expected in about two weeks. Japanese MENTHOL has done better business and prices are dearer. K/S brands, spot, 10s.; in bond and afloat, 9s.; shipment, July-August, 9s.; October-December, 9s. 1½d. per lb., c.i.f., from re-sellers. Japanese shippers quoting 9s. 3d. per lb., c.i.f. Spanish-Italian MERCURY is steady at last week's figures. QUILLAI BARK is dearer with very little offering forward; nominally £20 per ton, c.i.f. SENEGA new crop prices are now to hand, and work out in the region of 1s. 2d. per lb., c.i.f. Business in SENNA has been restricted, with some inquiry for good quality hand-picked Alexandrian pods, for which full prices are asked. Shipment offers of new crop SQUILL continue in the region of £20 per ton, c.i.f. SEEDS.—ANISE.—Spot, Spanish, 62s. 6d.; Bulgarian, 42s. 6d. CANARY.—Mazagan, quiet and unchanged at 17s. 9d. CARAWAY.—Dutch, 41s. 6d., duty paid; 35s. 6d. quoted, f.o.b. Rotterdam. CORIANDER.—Morocco on spot sold at 19s. and 17s. in bond; new crop, for shipment, quoted at 12s., c.i.f. CUMIN.—Morocco spot has all been cleared. For shipment, July-August, 37s. 6d., c.i.f., is the price. Malta, spot, 57s. 6d., business done. FENUGREEK.—Tunisian, 14s. 6d.; Morocco, 12s. 6d., duty paid. DILL.—Indian, on spot, 16s. 6d. MUSTARD. English, 20s. to 29s. 6d., according to quality. TRAGACANTH is about steady, with some inquiry for medium whites; best whites are scarce and up to £32 per cwt. CARNAUBA WAX is dearer; fatty grey, spot, 110s.; in bond, 100s.; shipment, July-August, 98s. per cwt., c.i.f. Chalky grey, in bond, 92s. 6d.; shipment, 90s. per cwt., c.i.f. Primeira, spot, 160s.; in bond, 145s.; shipment, 145s. per cwt., c.i.f.

Essential Oils, etc.

BERGAMOT is dull with shipment in the region of 5s. 2d. to 5s. 8d. per lb., c.i.f. CANANGA is held on spot for 8s. 3d. per lb. for small parcels. CASSIA is irregular forward; spot, about 3s. 10½d. per lb. Java CITRONELLA is none too steady for shipment at 1s. 4d. and less for bulk quantities. French LAVENDER is steady. Advice from the source reports crop prospects are favourable at present and should enable distillers to pay the cutters' higher prices. There is practically no carry-over of last season's oil. Should the harvest be up to expectations, there is a possibility of slightly lower prices for the new oil. Sicilian hand-pressed LEMON is meeting with some spot business; shipment is at about 3s. 8d. per lb., c.i.f., for good brands. LEMONGRASS is scarce on spot and firm at the higher figures of 3s. 11d. to 4s. per lb., if available; shipment, about 2s. 8d., c.i.f. Some fair business in MANDARIN on spot from 12s. 9d. to 15s. per lb., as to seller. Japanese PEPPERMINT shows a further slight improvement, with a little more business moving. Spot, 3s. 6d.; afloat, 3s. 6d.; shipment, July-August, 3s. 6d.; October-December, 3s. 6d. per lb., c.i.f., from re-sellers. Japanese shippers quoting 3s. 9d. per lb., c.i.f. The American natural oil in drums is again dearer and firm, with all shipment offers subject to acceptance and ranging from 3 dollars 20 cents up to 45 cents per lb., c.i.f. The damage to crop is confirmed, which must result in a very short output of oil. SPEARMINT has moved in sympathy. WORMSEED is also quoted dearer forward. There has been a sharp movement in French Guinea ORANGE, with the shipment price firm and advanced to 3s. 1½d. per lb., c.i.f., for quantities. There are, however, at the moment, spot sellers at about 2s. 9d. per lb., while some holders are looking for higher prices. The Sicilian sweet ORANGE is steady for shipment at about 5s. 6d. to 5s. 9d., c.i.f., and some prices are mentioned at much higher figures. The Californian oil is unchanged, with a steady business in small spot parcels. Business in other oils has been fair on small lines, with prices keeping generally steady.

Correspondence

Letters should be written on one side of the paper only. Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor.

Pharmaceutical Society of Ireland

SIR,—My attention has been called to a statement in a letter signed "Simplicior" (*C. & D.*, June 23, p. 715), in which the writer states that the Pharmaceutical Society grants licences to keep open shop to M.B.s without examination. There is no foundation whatever for this statement.

Your obedient servant,
JAMES J. KERR, M.P.S.I., P.C.,
Registrar.

67 Lower Mount Street, Dublin, C.6.

Cutting Analytical Fees

SIR,—Dear me! We pharmacists are a set of "lads"! Not content with cutting dispensing prices, the few chemists who undertake urine analysis are even cutting these fees! One would expect such people to have a little more self-respect than to charge 1s. 3d. for a sugar estimation—which is what at least one chemist in the Midlands charges, assuming my information to be correct.

Yours faithfully,
D. J. S. (25/6).

Against Exploitation

SIR,—It is natural, I suppose, for some retailers to get the impression that by forming themselves into a limited liability company for the purpose of doing their own manufacturing and distribution they will be in a position to meet the competition of the multiple shops, bazaars and unqualified vendors of drugs (*C. & D.*, June 23, p. 715). There are two objections I would raise to such a suggestion. One is that if they were able by combination to meet the competition of those mentioned above, the general level of prices ruling in the drug trade would be reduced still further. The other is that prices generally for drugs and packed drugs are so low already that no company formed as manufacturing chemists for the purpose of supplying pharmacists at lower prices could carry on and make any but a very nominal profit for the shareholders. It is true that multiple-shop companies do make big profits, but not out of drugs. It is a pity that the figures of the different departments of these concerns are not published; I am sure it would be found, in spite of statements to the contrary, that the percentage of net profit on drugs, packed drugs and galenicals is small compared with that of other sections of the businesses.

Yours, etc.,
MANUFACTURER (25/6).

This Membership

SIR,—After destamping comes dequalifying. "Ph.C." (*C. & D.*, June 16, p. 673) claims that although he has not paid his membership fee he is still a pharmaceutical chemist. The Pharmaceutical Society says he is not. In other words, however competent he was to pass the examination entitling him to use that title, or however successfully he has used that qualification during the intervening half-century, by the omission to send his 31s. 6d. he is now disqualified, and is in the same position as a person who has not qualified at all. Perhaps that is not strictly correct, as the Society might consider readmitting him to the register if he stumps up. What are all those qualified men to call themselves who are not engaged in retail shops, and therefore do not see the necessity of paying? They are no longer pharmaceutical chemists, pharmacists, chemists and druggists, or even pharmacutists. But they can still call themselves chemists; and that is just the title which the public applies to the retail man.

Faithfully yours,
PAID UP (26/6).

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for, and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

A. W. (26/48).—**BEEBLE POISONS.**—Beetles are not killed by insect powder, but if it is sprinkled near their holes and over the floors last thing at night, it "intoxicates" them and they can be swept up in the morning. Ferrous arsenate and copper aceto-arsenite are deadly beetle poisons, but their use is attended with too much danger. The following recipes, taken from "Pharmaceutical Formulas," Vol. II, are useful preparations for the destruction of these insects:—

I		II	
Barium carbonate	1 part	Sodium fluoride	... 10 parts
Brown sugar	... 1 part	Kaolin	... 10 parts
III			
Red lead	... ..	...	1 part
Sugar	... ..	...	1 part
Flour	... ..	...	1 part

P. T. (2/58).—**WORM REMEDIES.**—The following formulas should meet your requirements:—

Pigs	
Ferri sulph.	... .. gr. xv.
Sulph. flor.	... ..
Pulv. arecæ	... .. aa. 3j.
Antim. tart.	... .. gr. v-x.

Fiat pulv. To be given daily on an empty stomach for six days.

Dogs	
Ol. chenopodii	... .. 3j.
Ol. tereb.	... .. 3j.
Chloroformi	... .. 3ij.
Ol. ricini	... .. 3xiv.

Dose: 3ss. to 3ij. in an equal amount of castor oil.

S. A. B. (24/48).—**FREEZING MIXTURES.**—

I	
Ammonium chloride	... .. 1 part
Potassium nitrate	... .. 1 part
Water	... .. 3 parts

Reduction of temperature about 40° F.

II	
Ammonium nitrate	... .. 1 part
Sodium carbonate	... .. 1 part
Water	... .. 1 part

Reduction of temperature about 50° F.

III	
Sodium sulphate	... .. 8 parts
Potassium nitrate	... .. 5 parts
Ammonium chloride	... .. 5 parts
Water	... .. 16 parts

Reduction of temperature about 40° F.

Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," June 14, 1884

The Choice of Guests

The assembling themselves together for a banquet is a custom of the Pharmaceutical Society which has now grown into its teens, and may therefore be regarded as fairly sure of existence. It has, no doubt, an excellent effect in keeping pharmacy as a profession in evidence in circles where we are a little in danger of being neglected. . . . But while we thus very properly pay our court to our recognised betters, and receive with gratitude their amiable pappings and strokings, it must strike some of us that, during the past thirteen years, our best friend after all has been rather shabbily ignored. . . . Commerce is and ever must be, if we are to have dinners at all, our most intimate, our most valued, and our most serviceable comrade.

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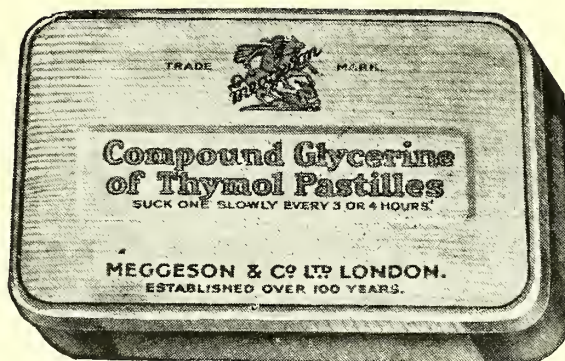
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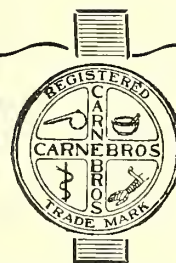
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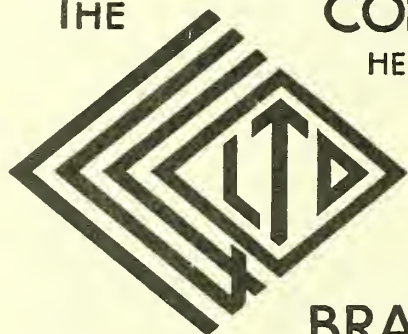
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Distilled from **SANTALUM ALBUM. linn.** at the **MYSORE GOVT. FACTORIES**

90%

ACTUAL SANTALOL
GUARANTEED B.P.
& U.S.P. STANDARDS
FOR FURTHER
INFORMATION APPLY.



TRADE COMMISSIONER
for MYSORE in LONDON
GRAND BUILDINGS
TRAFALGAR SQ., W.C.2



THE METHODS OF DISTILLA-
TION AND CONTROL ADOPTED
IN THE FACTORIES OF THE
MYSORE GOVERNMENT ARE
SUCH THAT BUYERS MAY
REST ASSURED THAT EVERY
CONSIGNMENT OF EAST
INDIAN SANDALWOOD OIL
RECEIVED BY THEM WILL BE
OF PRACTICALLY IDENTICAL
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Sole Agents for America:

MESSRS. W. J. BUSH & CO., INC., 11 EAST 38th STREET, NEW YORK

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BRADY & MARTIN LIMITED

Actual Manufacturers of—

**GALENICALS, MILLED OINTMENTS,
CAPSULES, PILLS, TABLETS, MALT
EXTRACTS, COD LIVER OIL EMULSIONS.**

**ORIGINAL MAKERS of THYROID EXTRACTS for THERAPEUTIC USE
(1891) AND MAKERS ALSO OF OTHER ENDOCRINE PREPARATIONS**

The following are a few of Brady & Martin's Branded
Preparations which have a large sale :—

**HEPATISAL, KRITHOL
SEPTOPHON DUSTING POWDER
SEPTOPHON CREAM
ALVOLAX GLUCO CITRAL**

**PROMPT SERVICE :: KEEN PRICES :: SOUND QUALITY
offered to all
PHARMACISTS OF THE NORTH**

**VISITS AND ENQUIRIES INVITED :: SPECIAL QUOTATIONS FOR QUANTITIES
SEASONABLE PACKED GOODS "OWN NAME"**

Address all communications to :—

**NORTHUMBERLAND ROAD,
NEWCASTLE-on-TYNE**

**FREQUENT MOTOR VAN
DELIVERIES TO THE TYNE,
WEAR and TEES AREA.**



**Telegrams: "BRAYMARTIN"
Newcastle-on-Tyne.
Telephone :
NEWCASTLE 24367 (2 lines).**

66
TRADE
MARK

NORMACOL⁹⁹
BRAND.

Intestinal Evacuant

is now widely prescribed
under the

**NATIONAL
HEALTH
INSURANCE**



H. R. NAPP LIMITED.
3 & 4, Clements Inn, London, W.C.2

Telegrams: "NAPPCHEM LONDON." Telephone: HOLBORN 1444 (Two Lines)

★ POPULARITY

MEANS PROFITS!



The one and only question when considering what to stock, is will it **SELL**? Not for a day . . . not for a week . . . but consistently, year in and year out. That is the only basis for really profitable business. On popularity depend your profits.

The three Venos Products are the most *dependable* sellers on the market. 'Dead' stock is non-existent; the demand for Germolene Brand Ointment, Dr. Cassell's Brand Tablets and Venos

Brand Lightning Cough Cure is nation-wide. These products have been proved over decades; each is the leader in its class. Profits are considerable, and you will never be faced with the problem of falling demand.

Advertising in a greatly increased list of publications is now appearing. Sales are due for a further rise. Don't delay. Time is money. Write to-day for terms and attractive display material.

PHENSIC

Phensic is the quickest Pain-Killer known. It is not a seasonal line—it sells consistently all the year round. A new forceful series of advertisements is now appearing in all the most popular media. Phensic will pull in big profits for YOU. Write for stocks to the agents—VENO DRUG CO., LTD.

VENO DRUG CO. LTD.

CHESTER ROAD, MANCHESTER, 16

Chas. Zimmermann & Co.

LIMITED

9-10 St. Mary-at-Hill, London, E.C.3

TELEGRAMS, INLAND:
"ACIDOLAN, BILGATE, LONDON"
TELEGRAMS, FOREIGN:
"ACIDOLAN, LONDON"



TELEPHONES:
ROYAL 1866
(4 LINES)

CHEMICALS

ACID LACTIC - - - - -
ACID TARTARIC - - - - -
ACID TANNIC - - - - -
ADRENALINE - - - - -
ASPIRIN - - - - -
BISMUTH SALTS
CAFFEIN
CALCIUM GLUCONATE
CARMINE
CHLORAL HYDRATE
CREOSOTE
DIASTASE
HEXAMINE
LYSOL
MALE FERN EXTRACT
MERCURIALS
METHYL SULPHONAL
PANCREATIN
PAPAIN PEPSINE
PHENOLPHTHALEIN
PHENACETIN
PROCAINE B.P.
QUININE SALTS
SACCHARINE
SAFFRON
SALOL
SUGAR OF MILK
SULPHONAL
SALICYLATES - - - - -
THEOBROMINE - - - - -
THYMOL - - - - -
YOHIMBIN - - - - -
ACID PHENYL ETHYL BARBITURIC,
ETC., ETC.

MEDICAL DEPARTMENT

Angiolymphe (Dr. Rous)
Asthmolysin (Dr. Weiss)
Bilival (Ingelheim)
Cadechol (Ingelheim)
Chinosol Original
Devatol-A (Veterinary)
Kathiolan (Marcussen)
Lobelin (Ingelheim)
Lysol (Dega Brand)
Nivea Cream (Beiersdorf)
Nivea Soap (Beiersdorf)
Norit brand
Medicinal Carbon
Papain (Dega Brand)
Pebeco (Beiersdorf)
Posterisan (Dr. Kade)
Salhumin Mud Extract Bath
Sozoidol Sodium Zincum
(Trommsdorff)
Subitol
Subitine
Terpichin (Oestreicher)
Ultraferran brand
Colloidal Iron Tablets
Unibar Shadow Meal
Satisfactory discounts. No dead stock

*Regular Medical
propaganda
creates increasing demand.*

Immuno Anti-Rheumatic Vaccine

issued in four series, each
in boxes of five ampoules—
graduated doses of 5 million to
375 million units.

Maintenance Dose;
Single Ampoules of 50
Million Units.

A product of the
Laboratories of
Dr. Leon Bertrand
ANTWERP

Roura & Forgas

14 Seething Lane
Gt. Tower Street
LONDON, E.C.3.

Telephone : Royal 2315-6 and 3080
Telegrams : Colleague, Fen, London

QUICKSILVER

Send your Enquiries to the
**Sole Importing Buyers
for the World**

OF
MINAS de ALMADEN, MADRID. MONTE
AMIATA, S.A.M., ROME. R. MINIERA Di IDRIA,
TRIESTE. STABILIMENTO MINERARIO Del SIELE,
LEGHORN. SOCIETA MERCURIFERA ITALIANA, ROME

FINEST QUALITY
CRUDE IODINE

GUARANTEED
NOT LESS THAN
99%

EVERY CHEMICAL & INDUSTRIAL USER SHOULD
APPLY for CURRENT PRICES & CONDITIONS to

ANTONY GIBBS & SONS

22 BISHOPSGATE, LONDON, E.C.2

representing

CORPORACIÓN de VENTAS de SALITRE y YODO de CHILE

Successors to

ASOCIACION de PRODUCTORES de YODO de CHILE

A. & M. ZIMMERMANN

Petri Bros. Ltd. Proprietors

CHEMICALS

Pharmaceutical

Technical

Chlorophyll

all

Grades

COD

LIVER OIL

Medicinal
and Cattle

Marseilles Soap

**3 LLOYDS AVENUE
LONDON. E.C.3**

QUININE

QUINIDINE
CINCHONINE
CINCHONIDINE

Sugar-coated Quinine Tablets and Pills.

and

SALTS

Gelatine-coated Oval Pills.

BANDOENG
JAVA

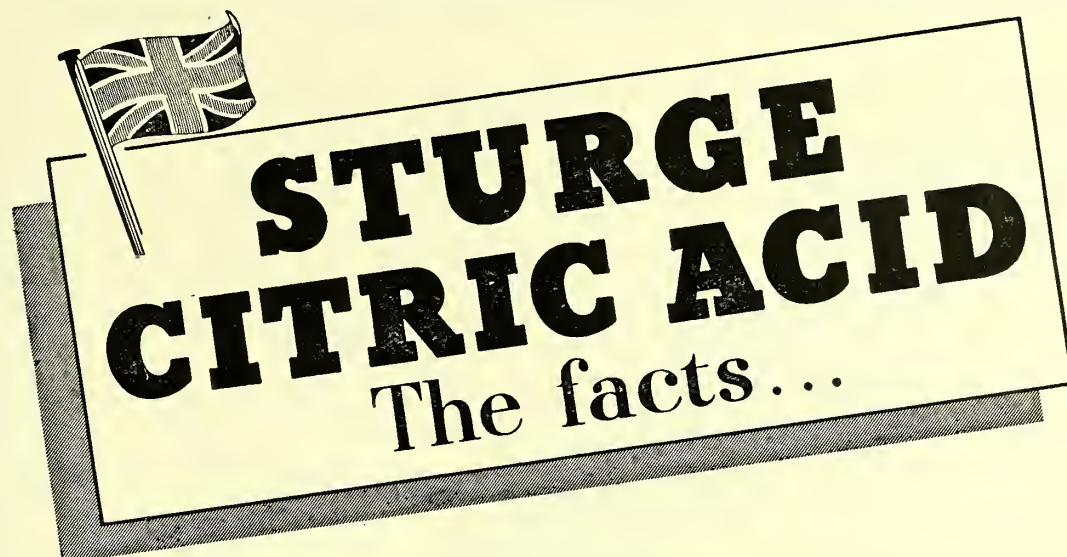
BANDOENG QUININE FACTORIES

AMSTERDAM
De Wittenkade 48-50.

Telegrams : "Kininefabriek Bandoeng."

Samples, prices and particulars on application.

Telegrams : "Semadmy Amsterdam."



STURGE Citric Acid is created by the natural action of enzymes on sugar. This process is a duplication of the action which takes place when the acid is formed in citrus fruits.

STURGE Citric Acid is created under strict laboratory control, by which

STURGE Citric Acid is assured of complete uniformity at all times.

STURGE Citric Acid requires no long processes of purification. The method of manufacture eliminates any possibility of impurity right from the start.

STURGE Citric Acid is the ideal acid for producing the finest summer drinks and foodstuffs. In purity, in flavour, and in its unvarying quality it is supreme.

STURGE

CITRIC ACID

WHOLLY BRITISH

JOHN & E. STURGE LTD.

WHEELY'S LANE, BIRMINGHAM, 15

MANUFACTURERS OF FINE CHEMICALS SINCE 1833

LIQ. IODI. MIT. B.P.
 SYR. HYPO. Co. Standard and Red.
 SYR. FICOR Co. B.H.
 SYR. PARRISH B.P.
 ESS. RENNET B.H.

At Special rates - - Ask for price

BLACKWELL, HAYES & CO. LTD.

Manufacturing Chemists

54-58 Moor Street

BIRMINGHAM



Senna
Ronaldson
Alexandrian & Tinnevely
Pods Leaves
Siftings
direct from our own growers
 ORIGINAL PACKAGES ONLY
John Ronaldson & Co.
 SENNA IMPORTERS
 15 Seething Lane, London, E.C.3

IONIZED IODINE

(MOLSON BRAND)

Obtainable from the usual wholesalers or the makers

MOLSON IONIZED IODINE CO. Ltd.

34 C, GABRIEL'S HILL, MAIDSTONE

PILLS AND TABLETS

Standard or Proprietary

Made under the personal supervision of qualified experts

Enquiries Welcomed.

THE WESTBOURNE PROPRIETARIES,

Manufacturing Chemists

28 All Saints Road, W.11.

Phone: PARK 6152

Glycerine

We Supply ALL Grades for

**PHARMACEUTICAL and
 MEDICINAL PURPOSES**

MAY WE HAVE YOUR ENQUIRIES?

GLYCERINE LTD. UNILEVER HOUSE, BLACKFRIARS,
 LONDON, E.C.4

Telephone: CENTRAL 7474.

GET.21-256 Telegrams: "GLYMOL, TELEX, LONDON."

SOLAZZI LIQUORICE JUICE

should be stocked by every chemist



BECAUSE it is recognised by the leading Medical Journals as the Standard of purity in Liquorice

BECAUSE it has enjoyed an uninterrupted sale to the public for over 100 years

BECAUSE the sale is helped by steady and intelligent advertising

IT IS PRE-EMINENTLY THE CHEMISTS' BRAND OF LIQUORICE

Should any enquiry as to the composition of Solazzi be received from the public, chemists are asked to emphasise the fact that it is the pure unadulterated product of the finest Calabrian Liquorice Root, and that a guarantee is included with every parcel.

See that you hold Stocks of this Safe & reliable Family Remedy

ESTABLISHED OVER 80 YEARS
AND STILL IN UNIVERSAL DEMAND

Dr. J. Collis Browne's CHLORDYNE

ORIGINAL AND ONLY GENUINE

**80 YEARS'
WORLD-WIDE
REPUTATION**

Please order from your Wholesaler with
other goods

Sole Proprietors:

J. T. DAVENPORT LTD.
UNION STREET, LONDON, S.E.1

**SOLD ONLY
THROUGH
CHEMISTS**
SIZES 1/3, 3/-

CREAM OF MAGNESIA

(MIST. Magnes. Hydrox. B.P. U.S.P.)

An Antacid Emulsion in almost perfect suspension produced by the
"PATTINSON" method of precipitation and therefore free from Alkali and Salts.

Packed for the Wholesale Trade.

ASK US TO SEND YOU A FREE 12-oz. SAMPLE BOTTLE



Sole Manufacturers:

THE WASHINGTON CHEMICAL CO.

Branch of TURNER & NEWALL, LTD.

WASHINGTON STATION, CO. DURHAM

PRECIPITATED CHALK

Easily the finest and lightest on the market. Its immaculate
whiteness makes it eminently suitable for Pharmaceutical purposes.

AMMONIUM CARBONATE

BROTHERS CHEMICAL CO. (1922) LTD.

MOSELEY ROAD, TRAFFORD PARK, MANCHESTER, 17



- ONE HANDED OPERATION
- UNSPILLABLE CLEAR GLASS BULB
- ALL METAL PARTS HEAVILY CHROMIUM-PLATED
- ONLY THE BEST RUBBER IS USED
- EASILY DETACHED FOR CLEANING

TRADE TERMS
LIST LESS
33 1/3%

THE "MILLETT" ATOMISER

We know—old stocks on the shelf—limited demand, and many other arguments against stocking fresh supplies of Atomisers. All true no doubt, but these applied to the old type; highly priced, with obvious disadvantages (awkwardness in use, difficulty of cleaning the container, etc.). But now with the "Millett" it is no longer true. Reasonably priced, it readily commends itself to the Medical Profession and public alike. Why not stock the Atomiser you *can* sell.

Model "N" (as illustrated) is specially designed for treatment of the nose and throat.

Model "U" is for more general and nasal use, and generously priced at 2/6d.

Model "G" specially designed for Gynecological treatment.

Atomisers
LIMITED

13 GT. PULTENEY STREET, LONDON, W.1

Telephone: Gerrard 1054.

Sole Agents:—MIDLANDS: Southall Bros. and Barclay Ltd. LANCASHIRE and CHESHIRE: Ayrton, Saunders & Co. Ltd. (also agents for S. Africa and Australia). YORKSHIRE: Lofthouse & Saltmer Ltd. SOUTH WALES: I. Roland James Ltd. SCOTLAND: Munro, McLaren & Sutherland. STOCKISTS: Barclay & Sons Ltd. Brooks & Warburton Ltd. Butler & Crispe. May, Roberts & Co. Ltd. Sangers Ltd.

PROPRIETORS OF THE MILLETT ATOMISER PATENTS, MAKERS OF FINE SPRAYERS & ATOMISERS

FOR HALIBUT OIL & PREPARATIONS



— WRITE —
LOFTHOUSE & SALTMER LTD. HULL.



FIRST IN QUALITY

Over fifty years ago we launched our first schemes for the manufacture of caramel, determined to give our clients only first rate quality.

FOR 54 YEARS
PIONEER
CARAMEL
SPECIALISTS

We are proud to think that still we are pioneers, for the quality of our caramel remains unreachd by all competitors.

HAMBER & CO LTD

Works: COLNE WORKS, HIGH ST., UXBRIDGE, M'SEX
Phone: Uxbridge 95 Grams: "Caramel, Uxbridge."

QUICK SELLING and PROFITABLE

*A boon in every
home & workshop*



FIRST-AID PLASTER DRESSING

UNIQUE—EFFICIENT—
ALMOST INDISPENSABLE

FASTAID, the modern instantaneous Dressing for all minor wounds, cuts and burns, will sell in rapidly increasing quantities.

Properly displayed, the neat 6d. and 1/- tins in their attractive outers will stimulate a steady flow of shillings and sixpences which otherwise you would have missed.

Only pure and tested ingredients are used in FASTAID, making it a safe, sure and soothing dressing.

Obtainable from all
Wholesale Houses

Manufactured by

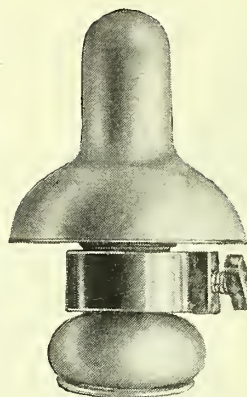
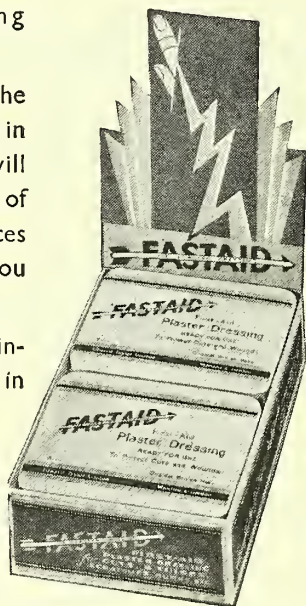
EDWARD TAYLOR Ltd.

MONTON, Lancashire.

GLASGOW, BIRMINGHAM, LONDON

Established 1847

FAS 2



PRICE
2/-
each less
usual discount

An ADJUSTABLE BABY FEEDER

The "EVERITE" baby feeder definitely overcomes the troubles usual to the ordinary rubber teat. It is instantly adjustable—the flow of food from the bottle can be varied at will. Many thousands are in use. Doctors recommend them and leading maternity homes use them. They are an investment, for they last for months.

May we send you our special counter displays?

The "EVERITE" FEEDER Co. Ltd.

3 CLOAK LANE, E.C. 4

Telephone : City 6164 (2 lines)

The "EVERITE" Feeder

**ALWAYS
A STEADY DEMAND
FOR**

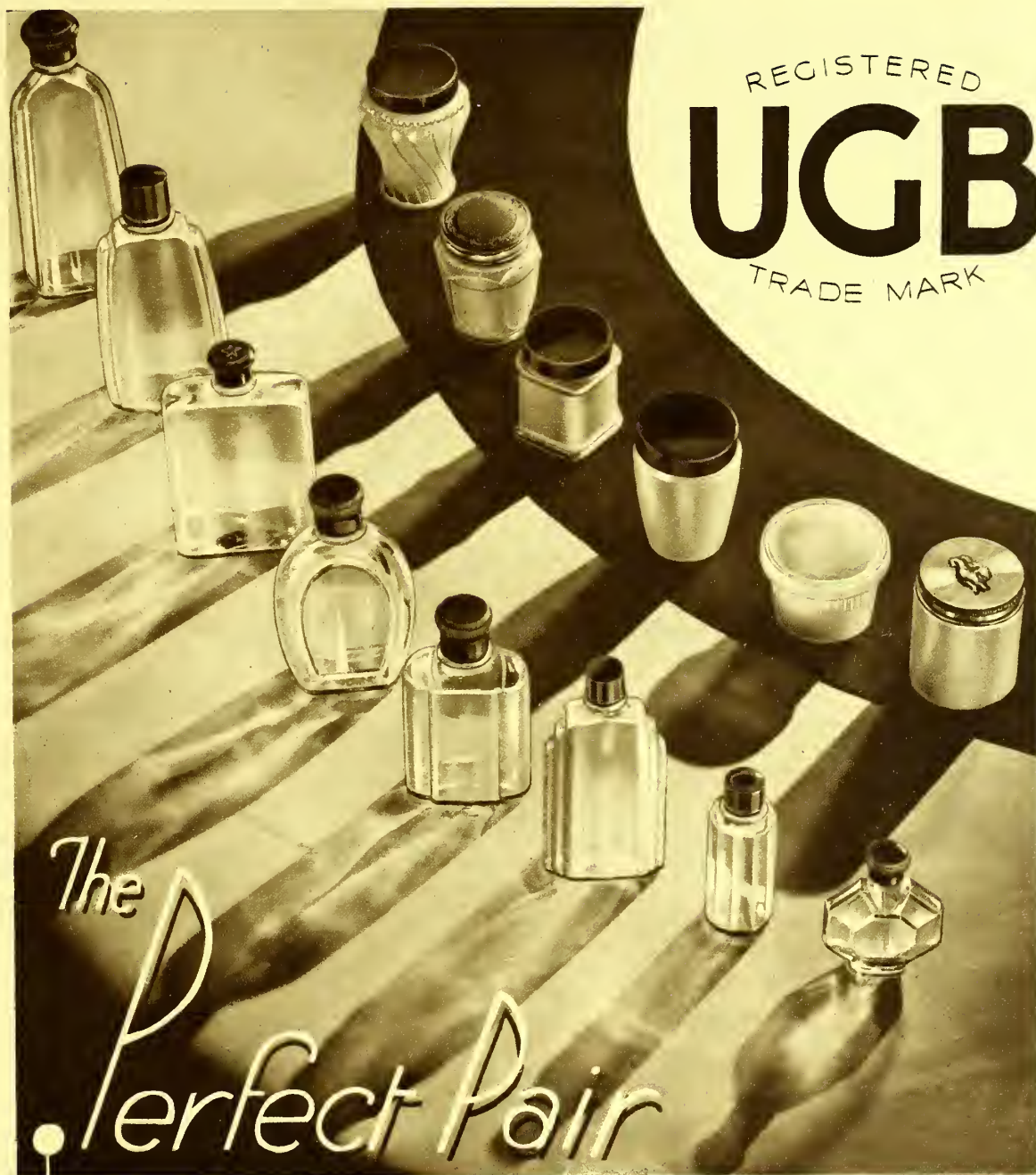


Supported by our steady, continuous advertising in trams, newspapers, etc.

**KEEP YOUR STOCK
UP-TO-DATE**

Selling from oldest stock first and should you have any stock, old or soiled, return direct to us when we will replace. For advertising matter also send direct to :—

**HOBSON TRIMBLE
& CO. LTD.
LEEDS, 2**



REGISTERED
UGB
TRADE MARK

The
Perfect Pair

TO BEAUTIFY and SELL YOUR PRODUCT

OPAL POTS of unexcelled quality—Clear crystal white flint PERFUME and TOILET WATER Bottles complete with moulded KORKALITE Screw caps in attractive colours. U.G.B. products stand foremost in quality and glass packaging design.

UNITED GLASS BOTTLE
MANUFACTURERS LIMITED

The Largest Manufacturers of Glass Bottles in Europe.
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2

Telephone:
TEMPLE BAR 6680
(10 lines).

Telegrams:
"Unglaboman, Estrand,
London."

GLASS BOTTLES MANUFACTURED BY

BOTTLES and CONTAINERS

of distinction _____ British made



ESTABLISHED 1851

Frederick Hampson Ltd

Phone:
Tralford Park 0814/5

PERSEVERANCE GLASS WORKS, SALFORD, 5, LANCs.

'Grams':
'Attention, Salford'

Licoricine

ACTS LIKE MAGIC

"No Case
too bad!"

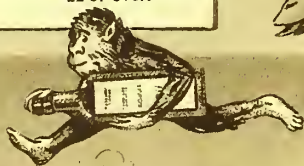
The recognised and really effective
Remedy for Coughs, Colds and
all Bronchial troubles

PRICES: 10½d. 1s. 3d. 3s. 0d.

TERMS.		
10½d. size	- - 8/6 doz.	Less 5% discount on
1/3 size	- - 12/- "	£6 orders. Carriage
3/- size	- - 27/- "	paid on orders of
		£2 or over.

**LIBERAL SUPPLY
OF COUNTER
BILLS,
SHOWCARDS
AND NEW
ADVERTISING
MATTER**

On Receipt of Post Card



Running over Sixty years and never beaten

Order from your usual Wholesaler or direct from

MANDALL & CO. LTD., 17-23, STEPNEY ROAD, NEWCASTLE-ON-TYNE

PLAISTERS

—are profitable
Here are two all-
the-year-round
lines that
sell well



ORDER FROM YOUR WHOLESALE OR ASK US FOR FULL DETAILS, ETC.



"Goods well displayed are half sold. Your sales of porous plasters will go up by leaps and bounds if you use this new registered display box—it sells them for you. Display a box on your counter and watch how quickly they sell. We manufacture every variety of porous plaster and pack them in this style of container."

WILMATH ELASTIC BANDAGES ARE UNSURPASSED. ASK FOR SAMPLES & PRICES

A New Line in Corn Plasters

Attractively packed in decorated tin boxes containing 6 plasters obtainable from your usual wholesaler. Liberal terms.

Write for particulars of special offer during this month.

Dyer Street
Manchester 15
England

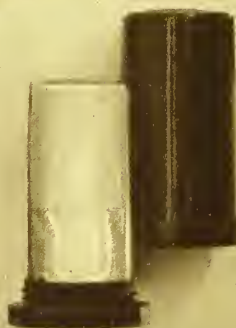
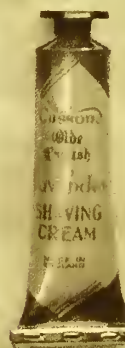
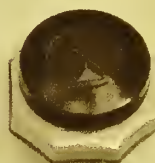
INCORPORATING MACE & HALDANE, LATE OF LONDON

WILLIAM MATHER LTD

Bakelite Materials in the service of the Pharmacist



The use of Bakelite Moulded Containers for toilet and cosmetic preparations is of two-fold interest to the modern Pharmacist. Distinctive and colourful caps and containers make for quicker sales and turnover. The contents of such containers remain fresh and in first-class condition, thus reducing stock depreciation. A copy of our leaflet—"Bakelite Moulding Materials For Modern Packaging" will be sent to you at your request, and we shall be pleased to supply you with the names and addresses of moulders of caps and containers



BAKELITE

Registered Trade Marks
B
T.M.P.O.L.

Registered Trade Marks

BAKELITE LIMITED

Works, Birmingham, Est. 1910.

68 Victoria Street, London, S.W.1

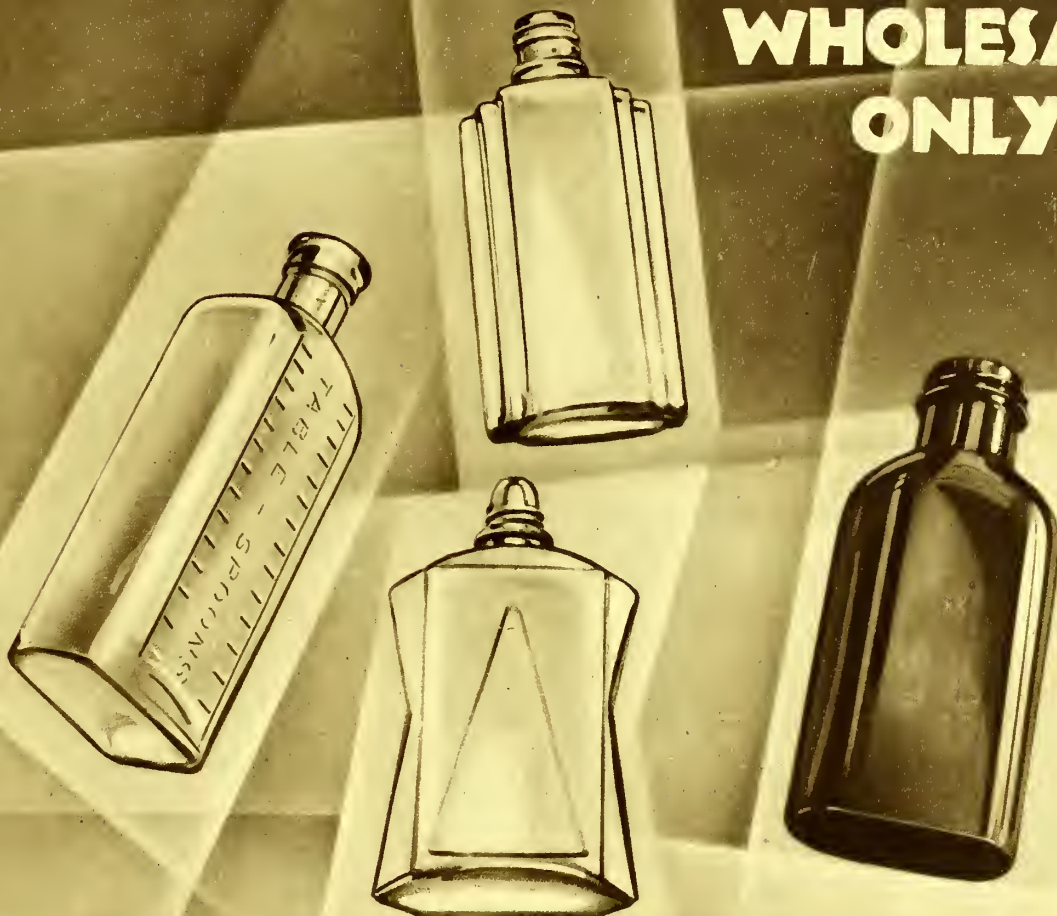
Telephone : Victoria 5441 (4 lines.)

June 30, 1934

THE CHEMIST AND DRUGGIST

XXV

**WHOLESALE
ONLY**



LAX and SHAW
LTD.



**LAX & SHAW LTD., Regd. Office: ALBERT GLASS WORKS,
HUNSLET, LEEDS.**

THREE FACTORIES: ALBERT, CLARENCE AND DONISTHORPE

D&C



VISKAPS

THE ORIGINAL VISCOSE BOTTLE CAPSULES

Ensure security, hygiene and an attractive finish to every bottle.

- * VISKAPS seal and mould themselves to the contour of almost any bottle and stopper. * VISKAPS can be printed with lettering or design in fast ink. * VISKAPS can be supplied Wet or Dry, and dyed to suit any colour scheme. — * VISKRINGS are similar to VISKAPS, except that they leave the top of the closure open, thereby allowing any printing or device to be seen.

WE ARE ALSO MOULDERS IN BAKELITE AND SIMILAR SYNTHETIC RESINS OF ALL THE REQUIREMENTS OF MANUFACTURING CHEMISTS, INCLUDING BOTTLE CAPS, COSMETIC CONTAINERS, SHAVING STICK and ALUM STICK CONTAINERS, etc.

Entirely British Made

VISCOSE DEVELOPMENT Co. Ltd., Woldham Rd., Bromley, Kent Telephone: Ravensbourne 4561

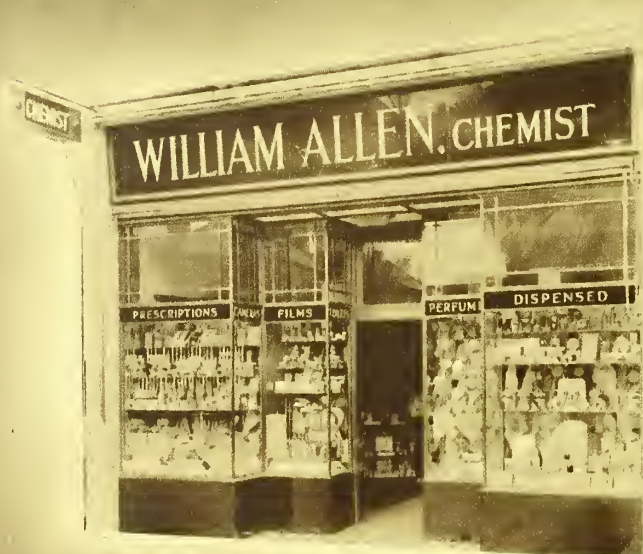
Makers of the Famous Viskaps for over 30 years.

*Your Series
for all uses*



THE
INTERNATIONAL BOTTLE CO., LTD.
48, FORE STREET, LONDON. E.C.2.
PHONES: MET 6161 (4 LINES) GRAMS: AUTREFOIS. TELEX. LONDON.

SHOPFITTING



The Ideal Pharmacy

(see C. & D. Diary 1934)
pages 255-261

*Shop Fronts
Showcases
Shopfittings*

**Philip Josephs
& Sons Ltd**

*Pharmacy Fitters
for over a Century*

90/92, ST. JOHN STREET, CLERKENWELL, LONDON, E.C.1

Telephone: Clerkenwell 2191. Telegrams: "Josephiah, Smith, London"

Established in 1826



*Obtainable only
from Chemists*



BRITISH
MADE

Pure White Sulphite

Packed in half gross cartons free

All orders carriage paid.

Showcards and free samples
on application.

Awarded the Certificate of
the Institute of Hygiene for
PURITY.



COSTS 4d.

BRITISH
MADE

Pure Manilla



SELLS AT 8d.

J. RUTHERFORD & Co. Ltd.

Victoria Paper Mills, Victoria Road, Holloway, London, N.7

BETTER... AND BRITISH

● AT LAST!

Hitherto weather conditions in this country have made it difficult to produce a first class rubber preventative. However, by constructing special air-controlled chambers in our new Slough factory we have at last succeeded in perfecting a **British** product which is far better than anything yet put on the market — a product which is, in fact, recommended by the **medical profession**. The quality is superior in every respect.

All SELKA Products are **TROPIC PROOF** and will keep in good condition for at least 3 years in any climate.

AT LAST you may sell **BRITISH** and still sell **BEST**

Samples and Prices on Request

SELKA RUBBER WORKS, Ltd.

Works: Trading Estate SLOUGH (Bucks)

Sales Offices: 109, Charlotte St., London,

**Phone: Museum 9143*

W.1.



Whose Money?

WHEN mistakes, forgetfulness and temptation take toll of the takings . . . whose money is short?

Wholesalers, assistants, rent, rates, taxes and other overheads must be paid. Whenever cash leakages occur **IT IS THE PROPRIETOR WHO LOSES.**

That is why thousands of retailers throughout Britain declare that their adoption of a

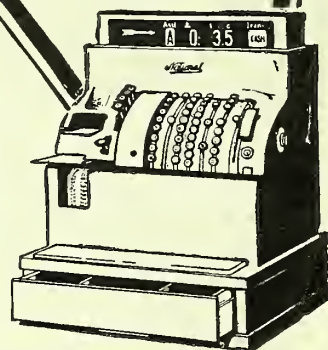
National CASH REGISTER

is the best investment they ever made.

"NATIONALS" embody every Cash Register feature of proved value. They not only reveal and stop profit leakages . . . they enable alert retailers to **INCREASE** profits, and to do it with much less work and worry. Full details about a "National" that will meet your needs exactly await your request. Write and tell us your problems to-day. Every machine is offered on easy terms, and enquiry involves no obligation.

Address enquiry to:—

NATIONAL CASH REGISTER Co. Ltd.
225 Tottenham Ct. Rd., W.1
*Phone: MUSEUM 9811

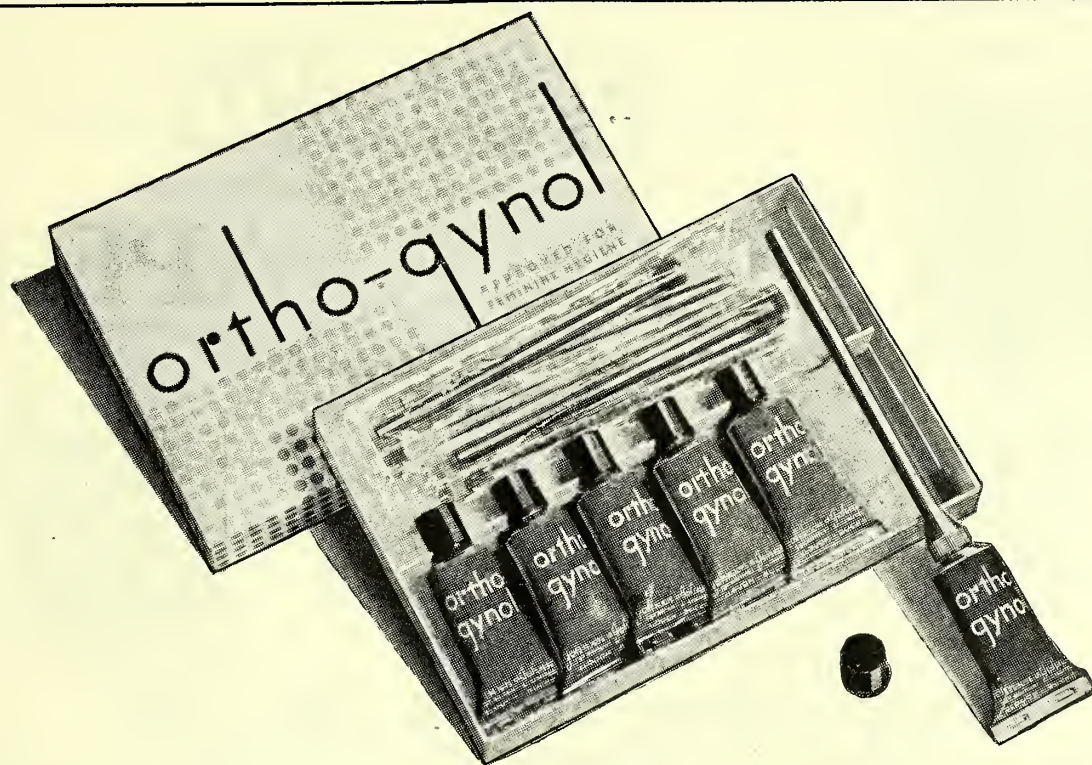


While Outdoor Sports are in full swing—Sell



It's easy—you need only show it to sell it. Every man who takes part in sports and games appreciates the value of the "Litesome" Body Belt. Everyone has felt the fatigue and heaviness caused by strain of the delicate muscles of lower abdomen and loins. Everyone realises that with the gentle, scientific support of the "Litesome" Body Belt this strain cannot occur. Therefore, freshness and vigour will be retained, games will be played better and with greater efficiency. Danger of rupture, varicocele and prostate gland, resulting from overstrain, will be avoided. Yes, every man is a customer for the "Litesome" Body Belt if you will make the first little selling effort. Send for sample belt now. In two sizes, 28-34 and 34-40-in. waist. Retail at 4/6

FRED HURTLEY LTD., Victoria Park Mills, Victoria Road, KEIGHLEY



The contraceptive with a professional policy

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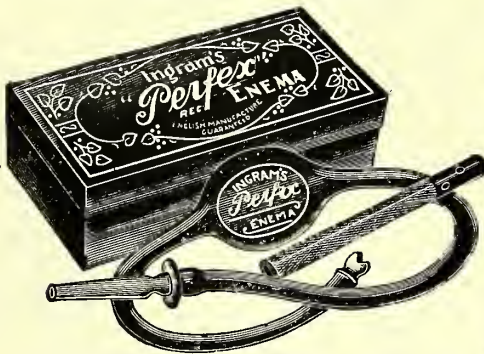
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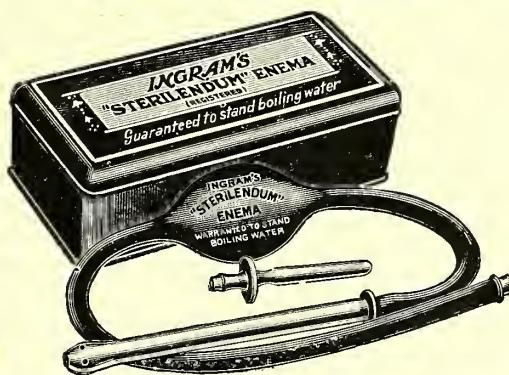
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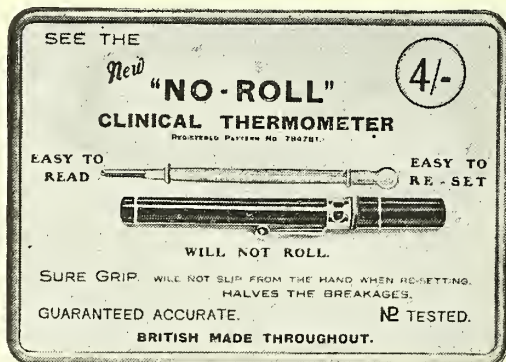
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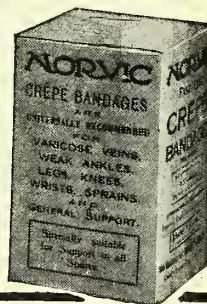
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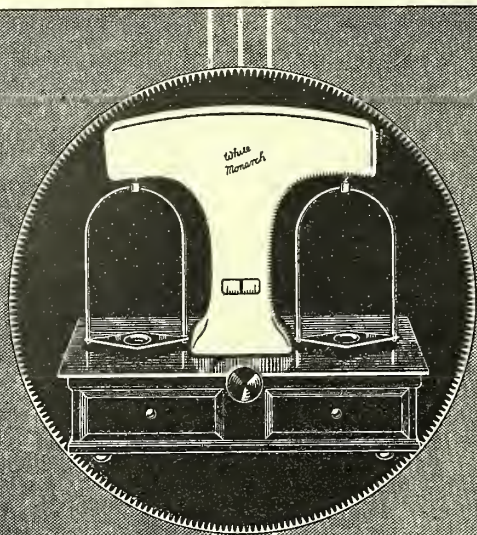
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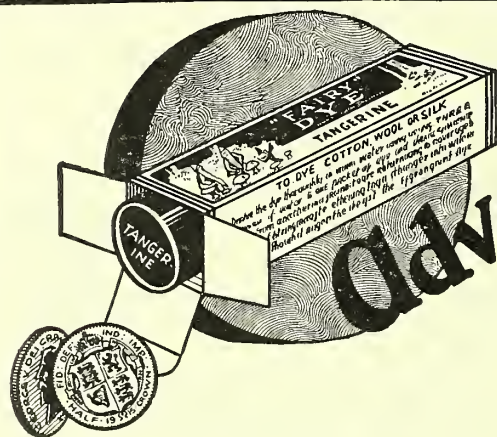
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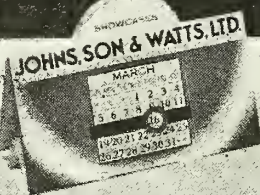
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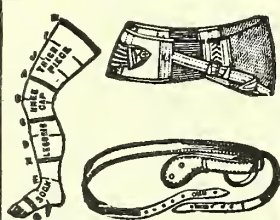
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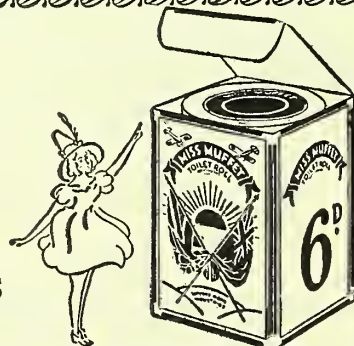


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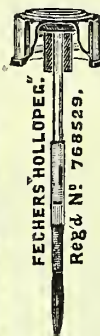
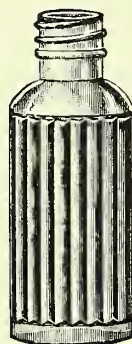
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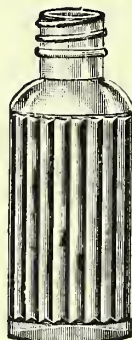
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$\frac{1}{2}$ in. wide MOUTH
for easy filling

Brush sweated over
Glass Rod

Black Bakelite Cap

$\frac{1}{4}$	$\frac{1}{2}$	1	2 oz.
2/-	2/9	3/3	3/9 doz.

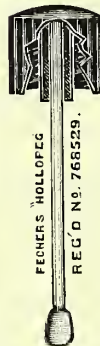
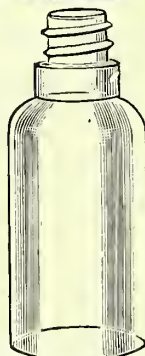


No. 817 WG

As above but with
Glass Brush

Black Bakelite Cap

$\frac{1}{2}$	1	2 oz.
3/3	3/9	4/3 doz.



For Corn Solvent
Actinic Green Glass
Modded Green Cap

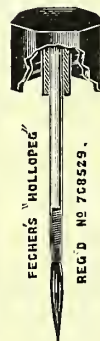
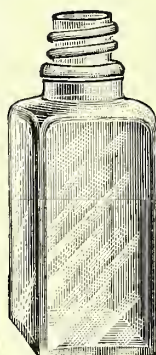
No. 427

With Glass Rods

$\frac{1}{4}$	$\frac{1}{2}$	1 oz.
19/6	24/-	30/- gross

With Brushes

20/6	26/-	32/- gross
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White Glass

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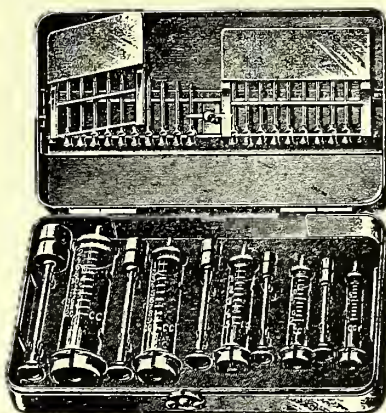
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No. 1 K/815

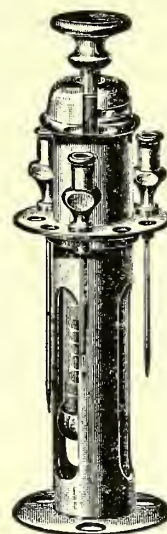
The "Primus" case
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position.

This case is constructed
for Compactness and is
completely SPIRIT-
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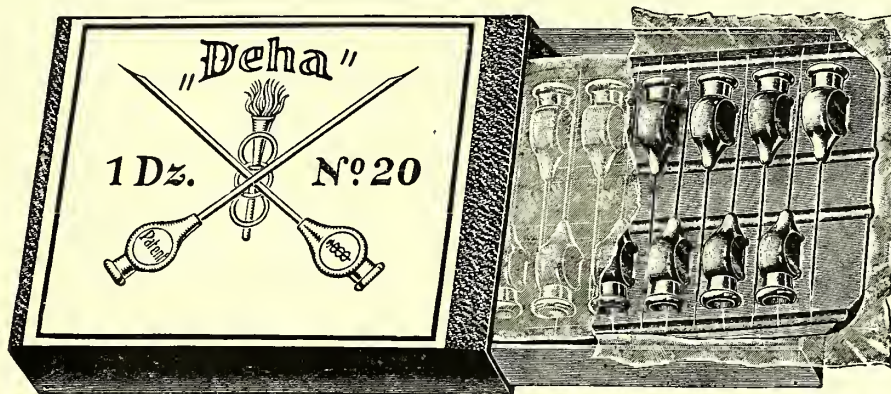
"DEHA" SYRINGE OUTFIT
comprising Hypodermic, Insulin and Serum
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Aseptic Metal Case



No. K/815

Showing syringe
and needles in
position on
PRIMUS RACK

This Aseptic rack
fits into Spirit-
proof case No. 1,
illustrated



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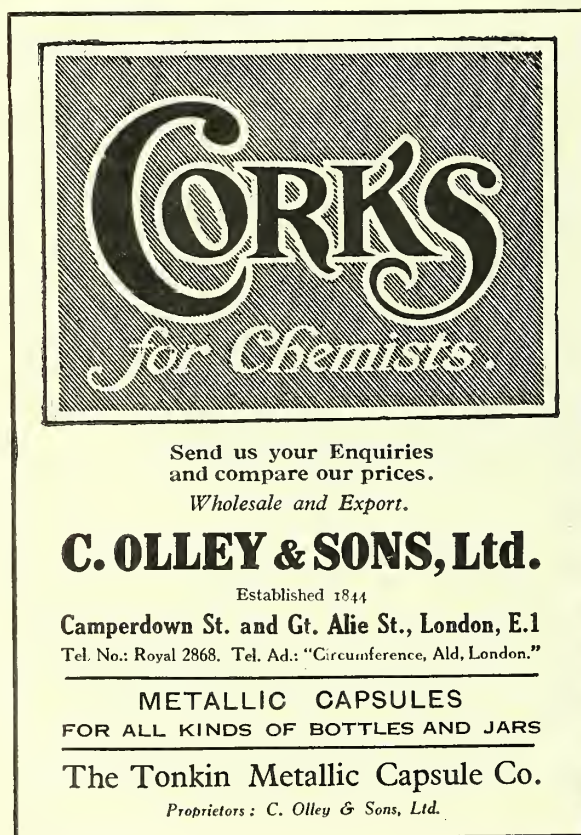
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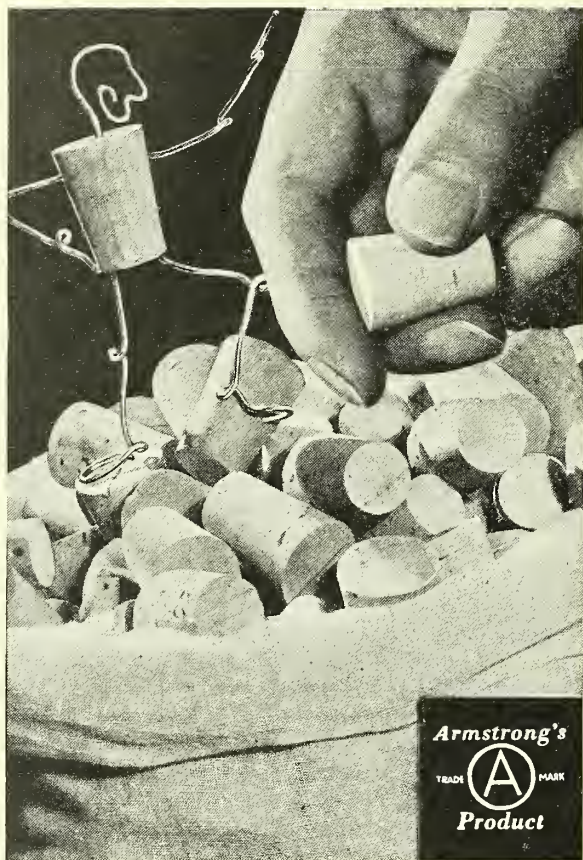
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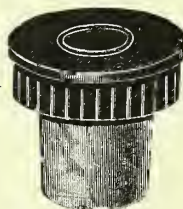
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*"The
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THE special U.G.B. process of Sterilizing by passing every single bottle through boiling distilled water and drying in super-heated filtered air has proved a boon to the busy dispenser.

Straight from sealed fibre dustproof cartons—ready for instant use—sparkling bright and scientifically sterile.

UNITED GLASS BOTTLE
MANUFACTURERS • LIMITED

The Largest Manufacturers of Glass Bottles in Europe.
40-43 NORFOLK STREET, STRAND, LONDON

Telephone:
TEMPLE BAR 6680 (10 lines)

W.C.2
Telegrams:
"Unglaboman, Estrand, London"

plus 50%**Sales increase of
DR. SCHOLL'S ZINO-PADS
from window and
counter display****The ZINO AUTOMATIC
will increase YOUR sales**

This neat and compact counter sales aid for Dr. Scholl's Zino-Pads, while making an effective display, requires very little space.

It sells and refills automatically—a packet of each size is always on display.

It will show all your customers that you sell Dr. Scholl's Zino-Pads. They are sure to have seen advertisements for Zino-Pads, and will know it as the finest corn remedy in the world.

That ZINO AUTOMATIC on your counter will have the desired effect of reminding them. We know that this on a counter increases sales by at least half as much again.

Write for particulars how to obtain it.

The SCHOLL Mfg. Co. Ltd.**188-194 St. John Street, London, E.C.1**

The New Home of

ZEAL



THERMOMETERS

The
"Sentinel"
Regd.



for family use ; in cardboard box
with full instructions.

"Easy Set"



capable of being reset in the
shortest possible time.

Zeal's



magnifying, with index set for
quick reading.



Zeal's "Repello" requires no shaking down.

THE WORLD CAN OFFER
NOTHING FINER THAN
ZEAL'S BRITISH MADE
CLINICAL THERMO-
METERS. ALSO HOUSE-
HOLD, BATHROOM, SICK
ROOM, & WORKS THER-
MOMETERS, BEST OF
THEIR KIND.

The Greatest Improvement in Clinical Thermometers.

G. H. ZEAL LTD., Morden Road, Merton, London, S.W. 19

Tel. No. : Liberty 2283 (3 lines).



Cables : "Zealdom, London."

SEAMED & SEAMLESS

SURGO ELASTIC HOSIERY

FOR SPECIAL
GARMENTS MADE TO
MEASURE WE MAINTAIN A
24 HOUR
SERVICE

TRUSSES

BODY BELTS

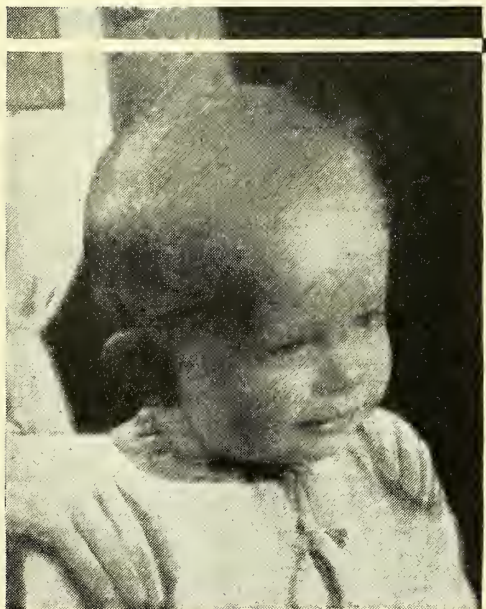
SUNDRIES

Write for Catalogue

SURGICAL HOSIERY CO., LTD

RUSSELL ST. NOTTINGHAM :

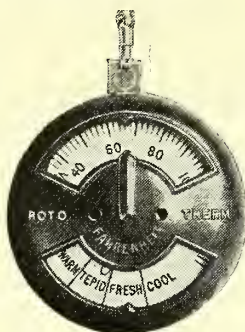
PHONE : NOTTINGHAM 75903
GRAMS : SURGICAL NOTTINGHAM



NURSE SAYS!

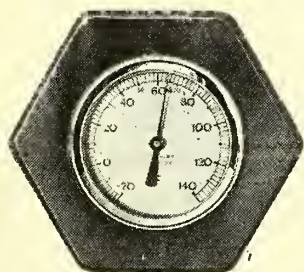
"Correct bath temperature is one of the most important things in baby's young life. My bath-model Rototherm shows the temperature so clearly and so accurately, and there is no risk of broken glass . . . I wouldn't be without it on any account."

Here is a steady all-the-year-round sale for you. The Rototherm Thermometer has caught the public fancy. What are you doing to supply the demand in your district?



BATH MODEL

Rototherm "at-a-glance" thermometers have a universal appeal—they are scientifically accurate—extremely rapid in response, good looking and inexpensive. The bath and desk models shown here retail at 3s. 6d. each. Other models in the extensive range include an Outside model at 4s. 6d. and many handsome chromium gift models from 9s. each. Rototherms sell rapidly. Ask your Wholesaler for particulars, if any difficulty write manufacturer.



DESK MODEL

ROTO THERM

THE NEW THERMOMETER

BRITISH MADE IN ROTOTHERM WORKS.

CORFIELD LTD., Merton Abbey, London, S.W.19

PHONE: LIBERTY 1144.

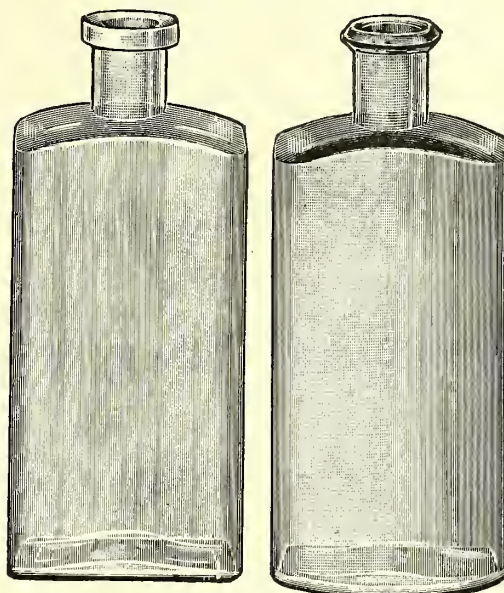
BEATSON, CLARK

& COMPANY, LIMITED

*Chemical and Medical Glass
Manufacturers,*

ROTHERHAM, YORKS

*The Chemists who are doing
the business are the Chemists
who turn the work out well*



Round Cornered Flat

Oval Fronted Flat

*There is no better help than
a smoothly finished, bright,
attractive bottle*

REASONABLE IN PRICE SATISFACTORY in FINISH

Telegrams :
BEATSON, ROTHERHAM

'Phone :
No. 88, ROTHERHAM

ESTABLISHED 1751

WHITE PETROLEUM JELLY

PHARMACEUTICAL AND TECHNICAL QUALITIES
HOLROYD'S OIL & CERESINE CO., LTD., 3 NEW LONDON STREET, LONDON, E.C.3

STRAW HATS

UNIVERSALLY WORN!

Standard size 12/- per doz. Retail 1/4.
Small size 7/6 per doz. Retail 10d.

Special Terms
for Export



LUTON HAT DYES

NATIONALLY ADVERTISED!

ORDER TODAY FROM —
WHITAKER & CO. (Kendal), Ltd., KENDAL, ENG

D.D. & POISONS REGISTERS

PRESCRIPTION BOOKS, &c.
FOR CHEMISTS, DOCTORS AND HOSPITALS.
30 Patterns. List on application.

H. T. WOODROW & CO. Ltd., 3 Cook St., LIVERPOOL
Phone - - - Bank 730.

INCREASE YOUR DEVELOPING AND PRINTING SERVICE!

Make use of our really useful series of D. & P. books, also our Printed Aids to Selling.

Interesting range of samples post free.

BURALL Bros. - Wisbech, Cambs.



CACHETS "FINOT"

(White or Coloured)
With inscriptions in any desired tint;
also Plain or Embossed.

"A distinction all their own."—C. & D.
"Perfection of Cachets."—Lancet.

These Cachets are especially adapted for Headache, Neuralgia and other powders.

COOPER SON & CO. LTD., 80 Gloucester Road, SOUTH KENSINGTON
In 17 Sizes to fit the various types of Cachet Machines.

BLYTON, ASTLEY & CO. LTD.

Eagle Laboratories, Lr. Broughton, Manchester,
FOR

LOZENGES, PASTILLES, "MENTHELLS,"
and Quick-Selling SPECIALITIES.

SALES OF "TENZ" TAKE AWAY THE BREATH

"Tenz," the tablets that sweeten the breath without scenting it, are being used by people in every walk of life.

"Tenz" Antiseptic Tablets instantly remove all odours from the breath. There is a universal demand for this line. Keep the dainty Display Box on your counter, and get your share of the sales. Sells at 3d. per tube, and shows big profits. Order direct or from your usual Wholesaler.

Tenz Ltd., London & Manchester

MAWSON FILTERS

always give satisfaction. They eliminate all risk of water contamination. Simple in construction, they do their job efficiently at a minimum cost. They have a world-wide reputation. May we send you our descriptive list? Overseas enquiries specially invited.

The MAWSON FILTER Co., 20 Grainger St. W., Newcastle-on-Tyne

ROZALEX

KEEPS HANDS CLEAN

Display Cards of 1 doz. 6d. Tubes. Display
Cartons of 2 doz. 6d. Tubes. Display Cartons
of 1 doz. 1/- Tubes. Aluminium Containers
2/-. From wholesaler or direct. Show-
matter and literature supplied on request to

ROZALEX LTD., YORKSHIRE HOUSE, CROSS ST., MANCHESTER

ROZALEX OINTMENT

PREVENTS
CHAPPED
HANDS.

Tubes 6d & 1/-
packed 3 & 1 doz.

THOMAS & LINTON, LTD.

57 Ormond Yard, Great Ormond Street, London, W.C.1

Telephone: Holborn 5518

London Selling Agents for

SUSIE'S PERFECT CLEANER

Ephedrol, Natex Health Foods

Deliveries from London Stock

STOCK CHLOROZONE

THE INTERNATIONAL INTERNAL DISINFECTANT
FOR ALL LIVE STOCK

"FROM ALL CHEMISTS" IS THE CHLOROZONE
SLOGAN, AND IS ADVERTISED IN THE LEADING
POULTRY & FARMERS' JOURNALS

From your Wholesaler or direct

PUTNAM'S DEPENDABLE SERVICE, Northam, Devon

DRY BATTERIES

SELL ALL THE YEAR ROUND

PIFCO carry a twelve months' storage
guarantee and only cost 4½d. subject.

Illustrated Catalogue ree.

85 PIFCO HOUSE - MANCHESTER

SECTO

KILLS ALL INSECTS
CUPAL LTD. BLACKBURN

FREE and POST FREE NEW CO-RE-GA CARD

Display it and increase your sales

THOS. CHRISTY & Co., Old Swan Lane, London, E.C.4

BE SURE TO SPECIFY SYNTHITE FORMALDEHYDE

For all purposes and processes in which Formaldehyde is required, Synthite Brand has shown a superiority so marked that its use is growing enormously from week to week. Synthite Formaldehyde is of superfine quality, unvarying consistency and moderate price. Deliveries are prompt. Full particulars, quotations and samples may be obtained from the addresses below.



SYNTHITE LTD., WEST BROMWICH, STAFFS

London Agents: BARTER TRADING CORPORATION LTD., 14 Waterloo Place, London, S.W.1

BAKELITE CAPS & MOULDINGS • COMPOSITION STOPPERS • CORKS OF ALL DESCRIPTIONS



Wholesale only

Phone: Hop 2043/4/5

Mundet Cork Products Ltd.

12-18 ABBEY ST., TOWER BRIDGE ROAD, LONDON, S.E.1

26,000,000

The newspapers and periodicals in which Bob Martin advertisements appear regularly have a total circulation exceeding twenty-six million copies per issue, and reach every home in the land.



July—

**the month of
double demand
for BOB MARTIN'S
CONDITION POWDERS**

THE normal and steady demand for Bob Martin's Condition Powders comes

from the experienced majority of dog-owners. They buy regularly because they condition their dogs regularly.

But, in July, sales are sent soaring up by the additional demand of less experienced owners—people in their first years of dog-owning. They buy Bob Martin's Condition Powders for a specific purpose—to stop a dog scratching or to restore his appetite. These casual buyers soon become regular buyers and intelligent users of dog medicines. Usually they take their custom to the place where they bought their first box of Bob Martin's Condition Powders. Take full advantage of this **double demand** for Bob Martin's Condition Powders. Make sure that dog-owners in your neighbourhood know that you can meet their requirements, by showing Bob Martin display material in your window and on your counter. It is produced in a wide variety of sizes and styles, and supplies will gladly be sent to you on request. Helpful advice and prompt service is offered by the Display Department Bob Martin Ltd. Southport.

**FOREIGN BUYERS
PLEASE NOTE**

The Bob Martin preparations sold in Great Britain are packed for the home market only, and the packets do not comply with Customs regulations for foreign countries. Please address any enquiries regarding export to Bob Martin (Export) Ltd. Southport England.





The VERDICT OF THE PRESS...

SUNDAY PICTORIAL

"A new dog shampoo which solves for dog lovers one of their biggest problems has just been marketed by Bob Martin Ltd. Bath days for the dog have hitherto been kept to a too low minimum consistent with damage caused to the coat by soap. With this new shampoo, which contains no soap whatever, this danger is removed."

THE TATLER

"Most of us were brought up to believe that our dogs must not be washed more often than once a month, because soap damages the 'bloom' we admire on a dog's coat. So regular washing has often been neglected in favour of a beautiful coat. After considerable research in the laboratories of Bob Martin Ltd. a new substance has been discovered which makes it possible for us to wash our dogs every week. Messrs. Bob Martin Ltd. are to be complimented on this contribution. Dog owners will welcome this latest discovery."

MORNING POST

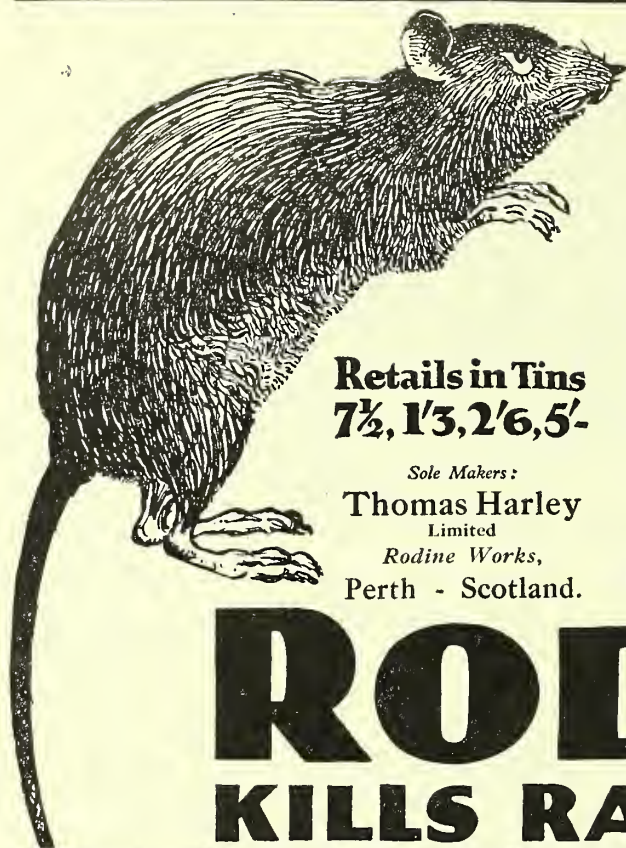
"Most dog owners are aware that too frequent washing of their canine friends tends to rob coats of their natural bloom, and that the use of ordinary soaps is always harmful to skins as well as coats. A shampoo powder has now been placed on the market by Messrs. Bob Martin Ltd. for which it is claimed that it can only enhance natural bloom, even for a dog washed every week, and that, in addition, it is thoroughly cleansing and non-irritant."

SOME TECHNICAL DATA

By F. J. Flowerdew, B.Sc.(Hons.),
A.I.C., M.P.S., Chief Chemist
Bob Martin Research Laboratories.

Scientific research on the detergent action of soap has evolved a new chemical product—Sodium Dodecyl Sulphonate—which far supersedes soap as a cleansing agent. The BOB MARTIN SHAMPOO FOR PRESERVING BLOOM, composed of this compound and its homologues in combination with an acid antiseptic, contains no soap, but its cleansing action is superior as it has greater wetting-out power, and is a better emulsifying agent. Its detergent power is approximately four times greater than soap and it does not injure the hair. Dissolved soap undergoes hydrolysis, producing free alkali with detrimental effects on a dog's coat. The BOB MARTIN SHAMPOO FOR PRESERVING BLOOM, on the other hand, is slightly acid in re-action, and can be used as often as desired because it leaves the coat in a natural state with a fine lustrous bloom.

**For the first time YOUR CUSTOMERS CAN WASH THEIR
DOGS EVERY WEEK without damage to the 'Bloom' of their
coats. DISPLAY BOB MARTIN'S SHAMPOO PROMINENTLY**



Retails in Tins
7½, 1'3, 2'6, 5'-

Sole Makers:
Thomas Harley
Limited
Rodine Works,
Perth - Scotland.

This perennial pest means ALL-YEAR-ROUND profit for You

Rodine works for you as well as your customers. Houses and Shops, Factories and Farms are being freed from rats and mice *all the year round* by RODINE.

Its efficacy is definite, its sales go on throughout the year—aided by extensive advertising.

How are your stocks?

RODINE

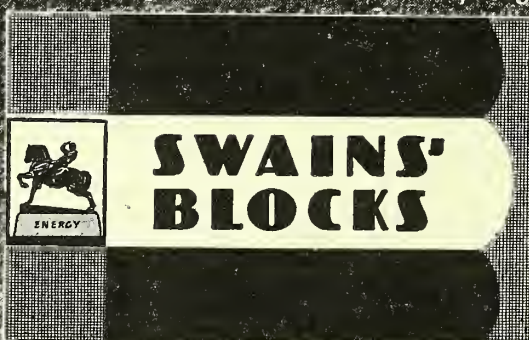
KILLS RATS & MICE



THE ENGRAVER
by Mothey

The First Proof....

tells the engraver if all is well and if the delicate and intricate stages of plate making have been successfully negotiated.



As the production of perfect, trouble-free blocks is our constant aim, first proofs are keenly scrutinised for faults. Hence the appreciation of thousands of satisfied customers.

JOHN SWAIN & SON LTD

HALF-TONE • LINE • COLOUR • GRAVURE • TYPESETTING
DESIGNING • ELECTROTYPING • STEREOTYPING
89-92 SHOE LANE, LONDON, E.C.4

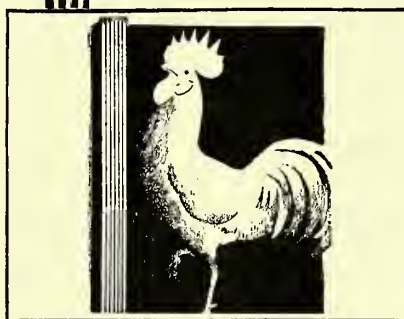
FOUR PROFIT LINES

FOUR PROFIT LINES



EUREKA WEED KILLER.

Largest Sale. The Chemists' Favourite Brand. Easiest to sell. Sales through Agents. Powder and Liquid. Eureka Lawn Sand, Worm Killer, Fungicides, Quassia Extract, Sprays, etc.



TOMLINSON'S POULTRY PRODUCTS.

Cod Liver Oil. "Kil-Tik" Perch Paint. Worm Cure. Iodised Mineral Salts. Roup Powder. Vermin Powder. Gape Powder. White Fluid Disinfectant, etc.



HAYWARD'S SHEEP · DIPS.

Dips packed in your Own Name if required. Approved by Ministry of Agriculture. The original Hayward's Dips, introduced 1842. Hayco registered. PASTE, POWDER, FLUID.



TOMLINSON'S DAIRY HELPS.

Butter Powder, Butter Colour, Cheese Rennet, Liquid Annatto, Junket Tablets, etc.

TOMLINSON & HAYWARD, LTD.
51, NEWLAND, LINCOLN.



PLIAPHANE TRANSPARENT CONTAINERS of every size and shape, plain or attractively printed with your own firm's name and advertising matter. Excellent packings for Tooth Brushes, Shaving Brushes, Emery Board, Orange wood sticks, Powder Puffs, etc., etc.

CELLUSINE CELLULOSE WRAPPING FOIL, colourless, transparent, cut to any

size, or supplied on reels.

PLIAPHANE MACHINE MADE TRANSPARENT FOIL, colourless or in assorted colours, in sheets or on reels.

GELATINE FOILS for bands, layers, box windows, etc.

GELATINE DRY CAPSULES for Medicinal and Veterinary purposes.

GELATINE DRY CAPS for Bottle closing.

COLLAPSIBLE METAL TUBES, pure tin, tin coated or lead.

CARDBOARD COLLAPSIBLE FOLDERS, printed for all trades.

METAL FOILS, aluminium or tin coated on paper.

FOLDING BOXES, metal-coated, printed and embossed.

CELLULOSE WADDING and FILLING PADS.

ADVERTISING TAPE for branding your goods or for packing purposes, printed with your own advertising matter.

LANGHECK & CO. LTD.

5 NEW LONDON ST., LONDON, E.C.3

Phone: ROYAL 4137

WOODWORM DESTROYED

BIG PROFITS AND CONTINUOUS SALES

'KILPEST' The only effective remedy, Kills Beetles, Eggs and Larvæ by penetrating vapour. Retail at 1/6

ENORMOUS DEMAND. SELLS ITSELF

SPECIAL TRIAL OFFER

ONE DOZEN WITH SHOWCARD & ALL ADVERTISING LITERATURE 12/6 CARR. PAID. DON'T MISS IT!

G. KILPERT & CO. The Laboratories, Market Sq., WELLINGBOROUGH

HARVEY'S Horse Remedies

P.A.T.A.
Protected Prices.



THESE Remedies are used in most of the Training Stables, Stables of Masters of Hounds, and by many thousands of the best Private Horse Owners in the United Kingdom and Abroad.

Supplies through all Wholesale Houses.

HARVEY & CO. (DUBLIN), Ltd., DUBLIN.



The attractive set of showcards available includes the centre-piece in full colours here reproduced.



ATTENTION

**TO KILL INSECTS
BE SURE YOU GET**

FLIT



An unusually large plague of flies this summer. So say the entomologists. Stronger measures will be taken to exterminate them. The world's best selling insecticide will be in greater demand than ever. This means a busy season for the retailer—and more profits.

This fact combined with the substantial reduction in prices and the intensive National advertising being placed throughout the summer ensures record sales for Flit. You can further assist sales with the attractive window display material.

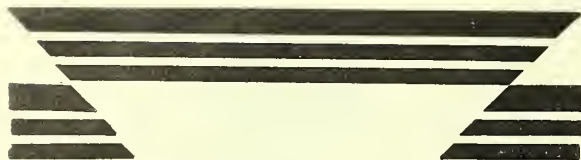
Flit carries a splendid margin of profit and there are additional bonus offers for window display.

FLIT POWDER

This new Flit product has met with instant success wherever the attractive cans have been displayed. Send for your showcards and advice of special purchasing terms.



Sole Distributors for the United Kingdom: **STEMCO LIMITED**, 128-132, Albert Street, Camden Town, N.W.1



DEPENDABLE

for

D & P

For a clean working, stain-free paper, giving the highest economy in the D. & P. department, there is nothing to equal



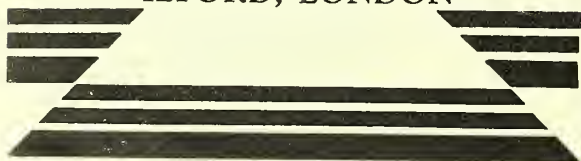
Try the beautiful new surface

Cream Rayon

—the de luxe paper for better prints at better prices

Made in England by

**ILFORD LIMITED,
ILFORD, LONDON**



DON'T CUT D. & P. PRICES

*Fight the Cutters
with Better Work*

We specialise in the highest class photographic work from celluloid or paper negatives.

GUARANTEED SAME DAY SERVICE

SPECIAL LINES

GIANT ENLARGEMENTS ... 1/3 each
EASEL ENLARGEMENTS ... 1/- each
RAYON PRINTS & ENLARGEMENTS
COLOURED WORK, ETC.

DISTRIBUTORS OF "GRANVILLE" FILMS

BLUNDELL & CO. (LIVERPOOL) LTD.
119 LIVERPOOL RD., GT. CROSBY, LIVERPOOL 23

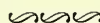
NOTICE

It has been brought to our notice that **MESSRS. WILL R. ROSE, LTD.** of Chester, Oxford and Cheltenham are the registered proprietors of the **TRADE MARK "MAGNA PRINTS,"** under which name we inadvertently supplied photographic prints to a customer.

We hereby admit the claim of that Company to the above-mentioned Trade Mark and that we have no right whatever to its use, and we offer our deepest and unqualified apology to Messrs. Will R. Rose, Ltd. and regret any annoyance or loss which that Company may have suffered in consequence of our action.

Dated this 23rd day of February, 1934,
for George Leslie's Studio, Ltd.
(incorporating Gillman Hills & Saunders),
16 & 49, Cornmarket, OXFORD.

(Signed) G. L. HAWKINS,
Managing Director.



When you are asked for "Magna Prints," remember that Will R. Rose, Limited, of Chester, Oxford and Cheltenham, will gladly supply them by return of post, and can offer you a developing and "Magna Prints" service at the usual trade terms.

**SOME MAY COME
AND SOME MAY GO**

**BUT WE GO
ON FOR
EVER !**

GEORGE—

BRADFORD EDUCATION COMMITTEE

Bradford Technical College**DEPARTMENT OF PHARMACY***Fees for Full Courses for the*

Chemist and Druggist Qualifying Examination	- 20 Guineas
Pharmaceutical Chemist Qualifying Examination	- 20 Guineas per Session
Bachelor of Pharmacy (University of London)	- 17 Guineas per Session
Preliminary Scientific Examination	- - - - 15 Guineas

Apply to the **PRINCIPAL, TECHNICAL COLLEGE, BRADFORD**, for particulars regarding these courses of study.

Liverpool School of Pharmacy*Principal :***H. HUMPHREYS JONES, F.I.C., F.C.S., Ph.C.****NEXT SESSION****October 4th**Preliminary Scientific
6 months CourseQualifying Examination
9 months CourseSeptember Examinations
(Preliminary Scientific and Qualifying). Special Revision Course August 8th.Part-time classes Tuesday and Wednesday evening,
and Wednesday afternoon

Students are requested to book early

Particulars from

BLACKBURN PLACE, 8**WESTMINSTER COLLEGE
OF PHARMACY**

Founder :

G. S. V. WILLS, Ph.C.

Principal :

P. H. WOODNOTH, Ph.C., F.C.S.**DAY CLASSES**Summer Revision Course—July 30th.
Fee 7 gns.New Session Commences October
3rd.**POSTAL COURSES**Preparatory Courses in all Subjects.
Fee 21/-

Special Test Papers are available for revision.

*Prospectus for Postal or Day Classes
on application to the Principal :—***190 Clapham Road, London, S.W.9**

'Phone : Reliance 3728

Elasto^{Regd}

*For Varicose Veins,
Varicose Ulcers, Eczema, Piles
and all diseases of the veins
and arteries.*

HERE IS A SPLENDID OPPORTUNITY
FOR EXTRA SALES. "ELASTO"
IS A NON-COMPETITIVE LINE—
ITS SALES MEAN NEW BUSINESS.

*Increased advertising now in force.
We advise you to show Elasto—it
sells on sight!*

Prepared in the Laboratories of

THE NEW ERA TREATMENT CO. LTD.

(Dept. C.I.),
CECIL HOUSE - HOLBORN VIADUCT
LONDON, E.C.

Full particulars, Showcards, and Leaflets on request



**Elasto
Tablets**

5/- a box
(One month's supply)

Wholesale
45/- a doz.

**Elasto
Nature
Salve**

3/- a box

Wholesale
27/- a doz. From your wholesaler



P.A.T.A.

Dr. N. TUCKER'S ASTHMA REMEDY

(The original preparation containing Cocaine)

AND

BRONCHASMIN

(not containing Cocaine)

for ASTHMA, Etc.

TUCKER'S SPECIAL ATOMIZERS

Now British Made at Reduced Prices

Trade Terms on Application

Sole Proprietors:

A. O. TUCKER & Co., Ltd.,
CHEMISTS

491 OXFORD STREET, W.1

THE P.A.T.A.

(The Proprietary Articles Trade Association)

FOUNDED 1896

**THE PRICE MAINTENANCE
ORGANISATION OF THE
DRUG TRADE.**

MEMBERSHIP.

Proprietary Manufacturers	...	400
Retailers	...	9,000

and all eligible Wholesale Distributors.

No Manufacturer of a Proprietary article sold mainly by the Retail Chemist can afford to be outside the P.A.T.A., if he values the goodwill of the Retail Distributor. The P.A.T.A. ensures for distributors a fair and guaranteed rate of profit on sales of Proprietary articles. Manufacturers of Proprietary articles are, therefore, expected to place their products on the P.A.T.A. List.

Manufacturers of PROPRIETARY ARTICLES (distributed by the Drug Trade) who are not at present "on the P.A.T.A." are invited to join. The subscription is 6 guineas a year. For particulars apply to THE SECRETARY, 43 Gordon Square, London, W.C.1.

"W-5" brand tablets FOR THE REJUVENATION OF THE SKIN FROM WITHIN

This preparation, which embodies an entirely new scientific principle, is the first and so far the only one to influence biologically the texture and appearance of the skin by internal action. Scientific information which fully explains the merits of this preparation will be sent on request.

**Profit on every First Sale
which will eventually bring repeats
Average customer means 45/- to you**

5¹/₃



**Fixed Retail Price
21/- per box.**

Literature and show material
sent free on request even if no
orders for goods.

The success of "W-5" Brand Tablets, since this preparation has been placed before the public, proves conclusively that an article of outstanding merit, backed by judicious advertising, will sell readily, though not in the low-price class.

IMPORTANT

An absorbingly interesting and beautifully illustrated book is
THE CHIEF SELLING MEDIUM
and should be in the hands of every chemist.

Supplies can be obtained from wholesale houses or from:

GELTY DISTRIBUTING CO.

(Distributors for the British Empire)

158-162 OXFORD STREET, LONDON, W.1

Telephone : Museum 5555



MAUVE BOXES for Women
GREEN BOXES for Men

BESORBON

**THAT'S the SNUFF to give 'em
for HAY FEVER**

Kemsales Ltd.

20 Eastcheap, E.C.3

"RHUMUV" removes RHEUMATISM

The new herbal treatment for Rheumatism, Rheumatoid Arthritis, Neuritis, Sciatica, etc. Pure herbal extract in tablet form. No baths, no dieting, no electric treatment.

Trade terms and full particulars from the Manufacturers:—

**THE RHUMUV CO.
HALLAM GRANGE :: SHEFFIELD, 10**

10,000 Attractive Leaflets 27/6, 5,000, 17/6
Carriage Paid

Good, clean, bright work that will increase trade. A Post Card will bring you full information and samples.

ELLAMS & Co., 33 Hanover Street, Liverpool

The Fruits of PUBLICITY

An old and well-established laxative, conservatively advertised on a small scale, has become much more popular in the last few months as a result of a bolder scheme of advertising. The makers of Tamar Indien Grillon and the chemists who sell it are now reaping the fruits of publicity in the shape of a large and constant demand for this superior and effective fruit laxative.

TAMAR INDIEN GRILLON

All enquiries to: GUYOT-GUENIN & SON (DEPT. CD), 67 SOUTHWARK BRIDGE ROAD, LONDON, S.E.1

Advertising brings you customers

Doctors send you customers

It must be a good remedy if over 3,000 Doctors recommend and prescribe it. And "Curicones" has proved itself, in many thousands of cases, to be the most remarkable treatment in cases of rheumatoid arthritis, neuritis, sciatica, gout, lumbago and kindred ailments. Titled and distinguished people have written testifying to the efficacy of "Curicones."

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This is guaranteed by the Sole Makers to completely destroy them in all climates.

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Supplied in Tubes 7/6d. and 1/3.

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The finest food for Puppies and small Breeds, also for ailing dogs and dainty feeders. Retail prices: Small Cartons 1/9, Large Cartons 5/-. In bulk 14 lbs. 13/6, 28 lbs. 25/-. Carr. paid.

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Excellent for removing worms in puppies, and invaluable for colds, Distemper, Low Vitality, and Gastritis. In bottles 1/3 and 3/3.

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(Also suppliers of Wheat Germ Oil Capsules, and remedies for Rabbits, Cavies, Cats, Poultry & Pigeons.)

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For Rheumatism, Gout, Sciatica,
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In two forms
"red" for dark hair and
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EVERY Chemist should now stock

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Note: Silver for Men; Gold for Women.

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A new hormone preparation for women against climacteric disorders. Box of 25 tablets, 4/-; box of 80 tablets, 10/-

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A new slimming preparation against Obesity. 50 pills 3/-
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The "SPECIAL" BACK, KIDNEY and BLADDER PILLS

1/3 size costs 5/6 doz. 2/3 costs 8/- doz.

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Greatest of all Rheumatic remedies

1/3 size costs 7/- doz., 3/- size 17/6, 5/- size 25/-

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A Ready Selling Summer Line! SUN PROOF GOGGLES



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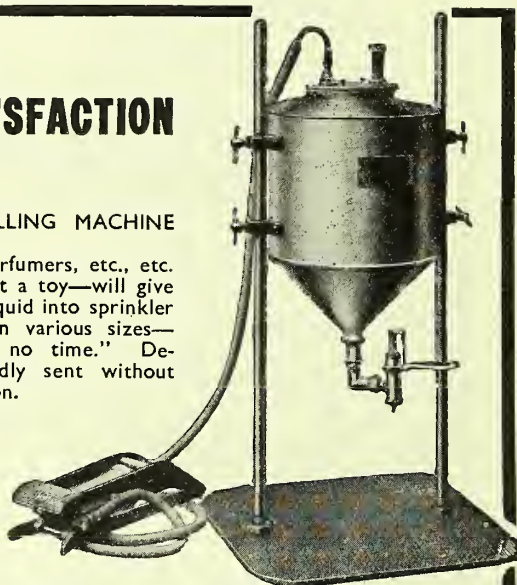
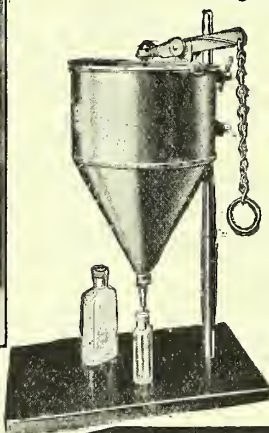
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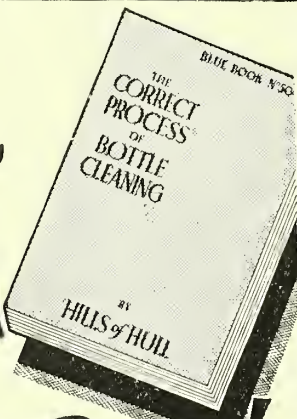
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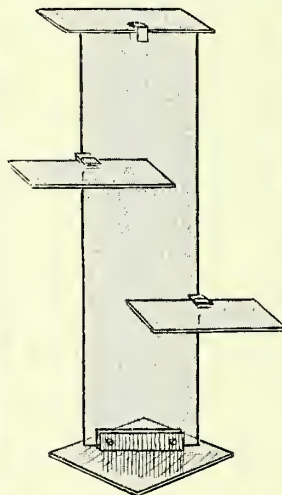
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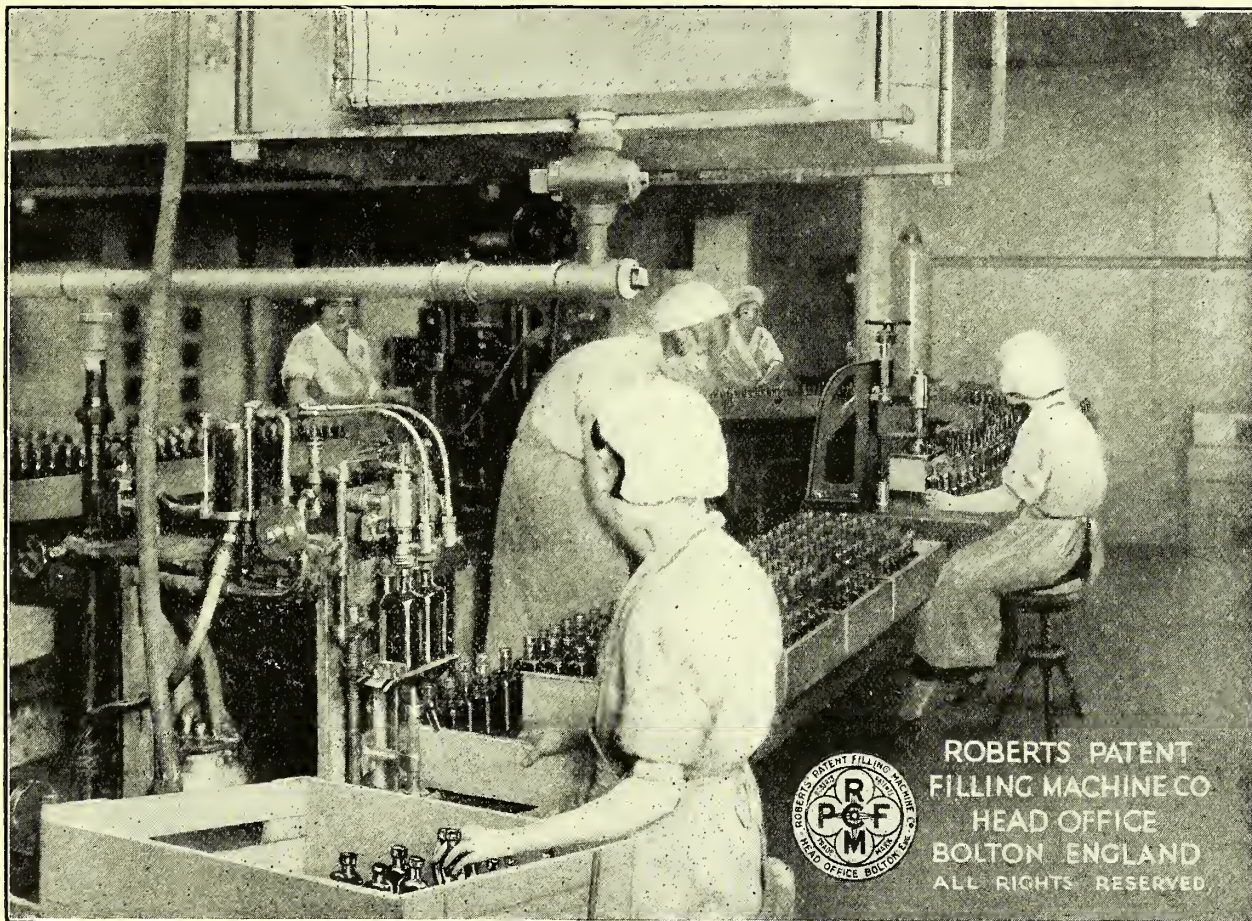
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VACUUM BOTTLE FILLERS**THREE MACHINES IN ONE**

Patent Nos. 284834/28, 310642/29, Others pending

ROBERTS' Patent SLICK POWER CORKER

Patent No. 372789/32, Others pending



**ROBERTS' PATENT
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ROBERTS' PATENT DUAL HEAD "LEO" VACUUM BOTTLE FILLER & SLICK POWER CORKER & VACUUM PUMP COMBINED*Photo by courtesy of Messrs. Elijah Day & Sons, Ltd.***ELIJAH DAY & SONS, LIMITED, Manufacturers and Importers,**

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Regarding the Vacuum Liquid Filler and Corking Machine you fixed up for us some time ago, we thought you might like to know our opinion of this.

To be candid we are delighted, we get very accurate filling, no waste, no upkeep, and very easy and quickly cleaned.

One operator fills on an average 45—8 oz. bottles per minute, and she can easily keep this up all day, the Corking Machine takes this quantity easily; further, this we consider important, we have saved a lot of room with this lay-out.

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With best wishes,

Yours faithfully,

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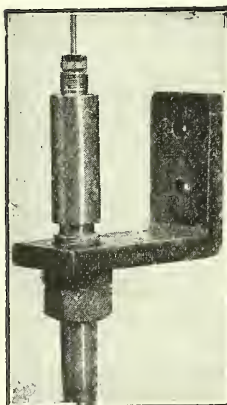
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You can do just the same, because we send you customers

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CARBOY STAND AND TILTER.

For drawing off small quantities of acids, etc., from Carboys, with ease and safety.

The Carboy can be tipped to any position with one hand.

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Carboy Hamper Manufacturers,
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Small Rotary Pill Cutting Machine & Piping Press

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This is a Machine specially constructed for the use of Chemists or Manufacturers of small quantities of Pills. Capacity about 5 lbs. per hour. Can be used on Counter or where little space can be spared. The Piping Press and Machine occupies a space of 2 ft. by 1 ft.

These Machines make one size Pill. By means of extra Plates and Rollers any size of Pills can be made.

Extra Plates and Rollers to fit Machines, £4 5 6.

Price, the two machines, £12

SMALL LEVER HAND TABLET MACHINE, 60 TO 80 PER MINUTE £7 15

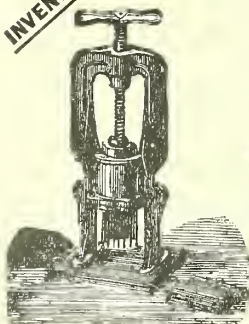
Power Tablet Compressing Machines, Coaters, Complete Pill Plants, End Runner Mills for Ointments, Linseed Grinding Mills, Tincture Presses, Emulsifying Machines, Percolators, &c., Mixing and Kneading Machines, Drying Ovens, Hand Pill Machines. Cold Compression Suppository Machines. SUPPOSITORY AND PESSARY MOULDS, LIP SALVE MOULDS, Etc. COMPACT POWDER PRESSES.

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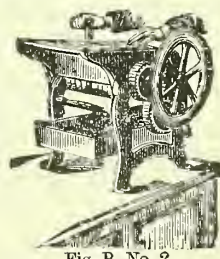


Fig. B. No. 2.

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EFFICIENT PRODUCTION

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THE BEST EQUIPMENT

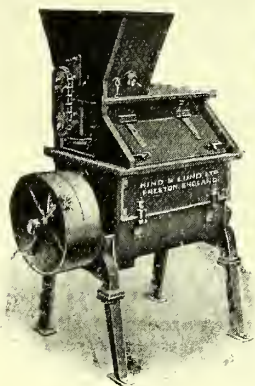
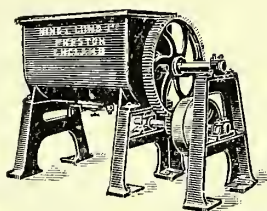
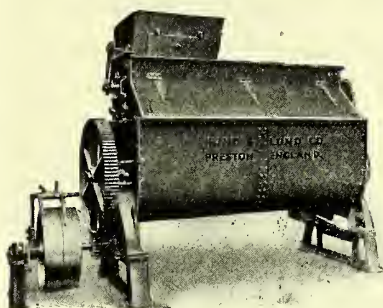
Mechanically exact apparatus saves time, power, eliminates frequent stoppages and gives continuous and unsurpassed service. There are many years' experience behind each machine we make. Their reputation is world wide. We make sifters and mixers for every purpose and shall be glad to advise you on any sifting or mixing problem.

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are correctly designed, substantially constructed and really do stand up to their job. They can be made to suit individual requirements for vacuum or pressure, with or without steam or water jacket. Send us your enquiries and let us tell you what kind of machine will suit your requirements.

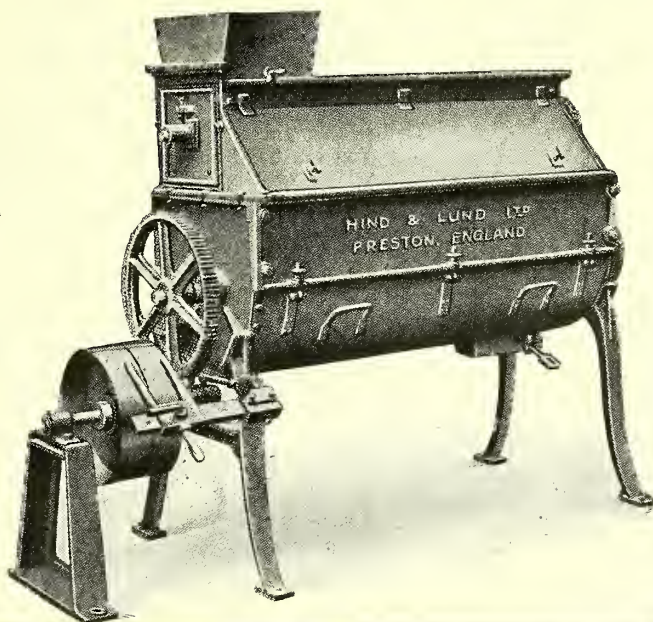


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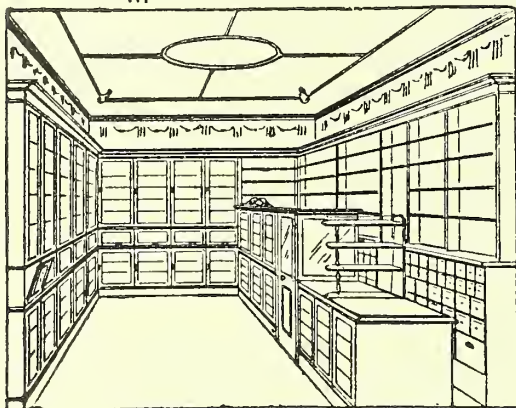
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LEEDS BRIDGE
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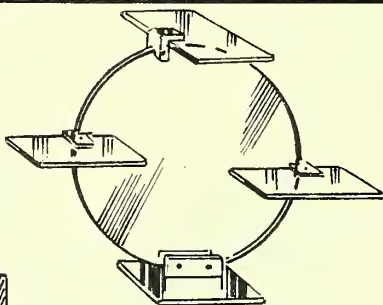
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Price 7½d.

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Sold in jars for the dressing table. Contains all the remedial properties of the tablet made up in softer form

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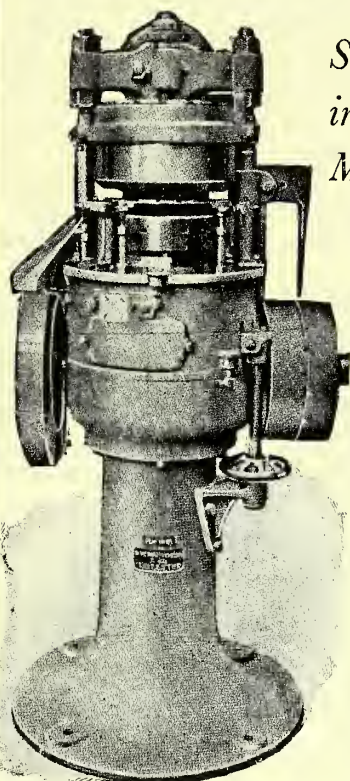
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2d. & 4½d.

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TABLET MACHINES



*Single Punch Machines
in six sizes. Rotary
Machines in six sizes*

Special Geared
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Heavy Type
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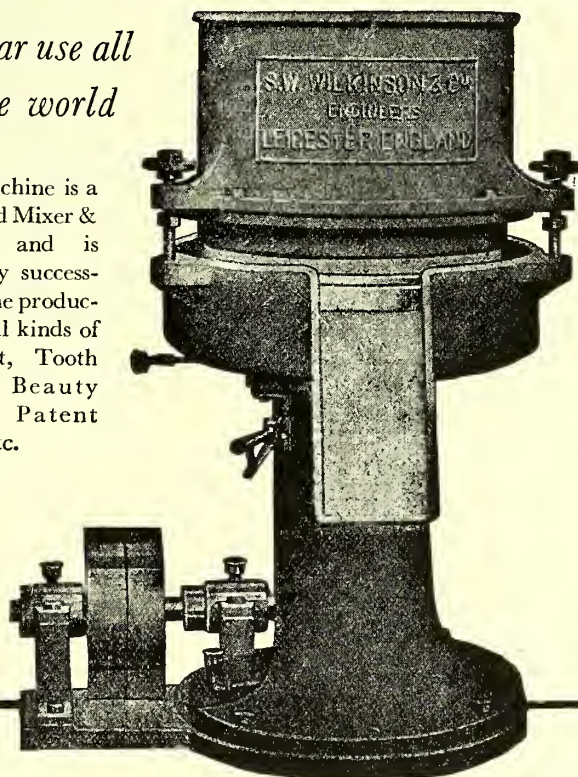
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INCORPORATES
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SUPER SPEEDY MILL

*In regular use all
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This Machine is a
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Dols' Volatalise Flannel is a medicated pure lambs' wool cloth of soft texture, intensely Radio-Active at body temperature, the curative effect thus penetrating to the deeper tissues.

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Also KNEE CAPS, BODY BELTS, CHEST AND BACK PROTECTORS, etc.
SOX (to fit any size shoe), The REMEDY for COLD FEET & CHILBLAINS, 1/3 per pair.

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A popular Ladies' Brush



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TALCUM and BEAUTY POWDER IN ATTRACTIVE PACKS
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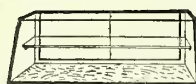
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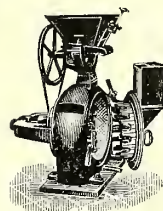
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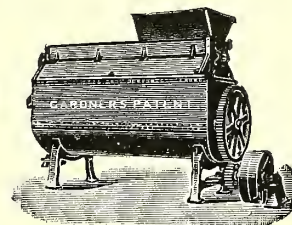


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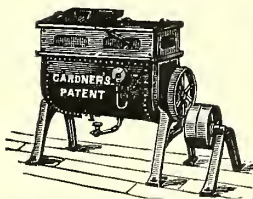
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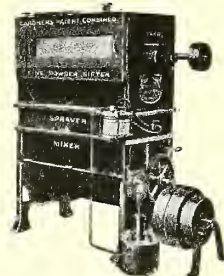
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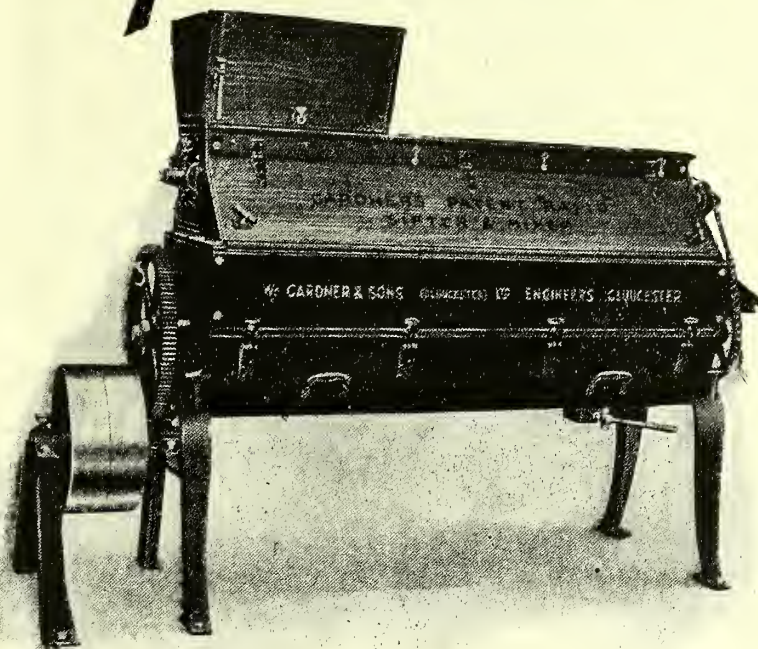
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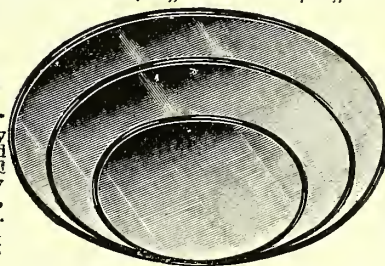
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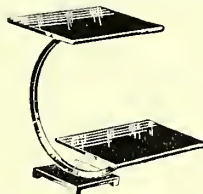
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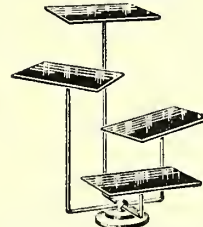
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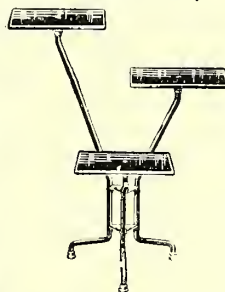
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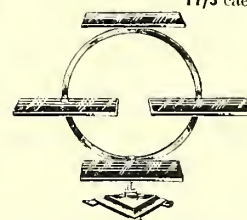
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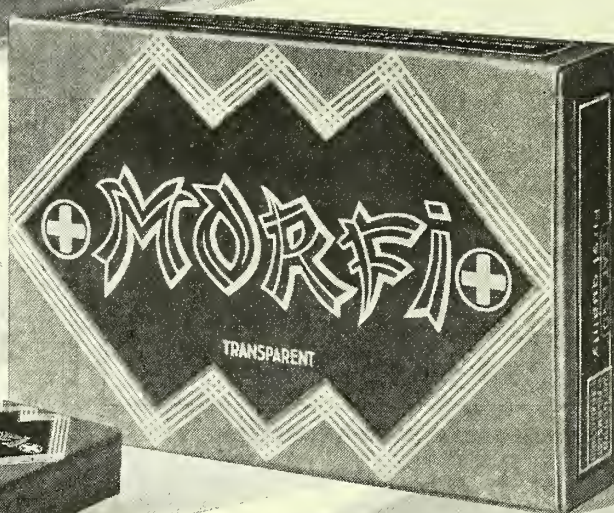
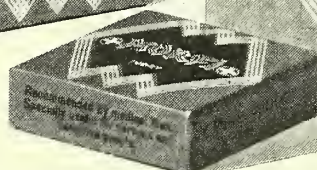
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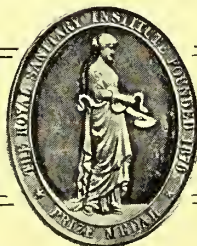
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JUNE 30,
1934

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Manufacturing District Close to the City.—Unusually fine Factory Premises, having a total area of 22,100 sq. ft., on 6 light and lofty floors; central heating; electric lift; excellent loading facilities; to be let as a whole or in parts at low rentals; suitable for Manufacturing or Distributive Chemists. Apply Matthews & Goodman, 35 Bucklersbury, London, E.C.4. City 5627.

Small Lock-Up Shop; working-class district, in manufacturing town; suitable for man able to treat ordinary simple ailments; 30s. weekly, exclusive of rates. Agent, Harold J. Nutt, F.A.I., 24 High Street, High Wycombe. Tel.: 388.

Well-fitted Shop and Basement to Let, in the busiest part of the City; first-class position; modern shop front has recently been installed; basement already fitted for Ladies' Hair-dressing Saloon; can be had at a very low rental. Apply 692 Holloway Road, N.19. 'Phone: Archway 3579.

Rare Chance for a Chemist

Extensive operations in a Bradford suburb have created the necessity for a shopping centre which is now complete with the exception of a Chemist's business. A shop remains to be erected for this business with house attached, and presents a rare opportunity for a man of enterprise to build up a sound business at a spot where there is no competition for a radius of two miles.

Full particulars from

THOS. FEATHER, Builder & Contractor,
Highfield Road, Six Lane Ends, Bradford

PREMISES FOR SALE.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

Bournemouth.—Amazing Opportunity to secure Excellent Premises in a Block of Four Shops (three already taken) occupying an unrivalled position in suburb, assuring Chemist absolute monopoly; excellent living accommodation; main West of England road; attractive corner premises, £1,450 freehold (substantial mortgage arranged) or would consider letting to good tenant. Sole Agents, Ernest Slade & Co., 111 Commercial Road, Bournemouth.

Wonderful Opportunity for Chemist, Butcher, Baker, Draper, Wet, Dry and Fried Fish, &c.; unprecedented development taking place; finest cash trading position; shops with excellent living accommodation; price £1,500 freehold (£250 down, balance as rent). For particulars write P. Chase Gardener & Co., 295 High Street, Hounslow.

TENDERS INVITED.

CORPORATION OF NEWCASTLE-UPON-TYNE.

CONTRACTS COMMITTEE.

Tenders are invited for the Supply of DRUGS AND DRESSINGS to all Hospitals and Institutions for six months commencing on August 1, 1934. Forms of Tender may be obtained from the Clerk to the Contracts Committee, Town Hall, Newcastle-upon-Tyne, and sealed Tenders must be delivered as directed on the envelope provided, not later than Thursday, July 12, 1934.

The Committee does not bind itself to accept the lowest, or any, Tender.

A. M. OLIVER, Town Clerk.

SALE BY AUCTION.

Messrs. Norman White have been instructed to Sell on Tuesday, July 3, commencing at 11 a.m., the stock of a Wholesale Chemist without reserve, comprising a clean, well-assorted stock, including ½ ton Toilet Soap, Cotton Wool, 12 gross Shaving Sticks, 200 Cameras, Grosses of Hair and Tooth Brushes, Microscope, Automatic Scale, Magnificent Specie Jar, 300 dozen Photo Plates, 800 pkts. Paper, and a large Assortment of Toilets and Sundries. Catalogues of the Auctioneers, 765 Romford Road, E.12. 'Phone: Ilford 0239. Goods on view Monday, July 2, all day, and until 11 a.m., Tuesday.

AGENCIES.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

CHEMISTS having large basement premises in central position are willing to undertake agencies or distributing centre. Burden & Co., 41 Store Street, W.C.1.

MR. S. ASHER, of Asher's Pharmacy, Ltd., Johannesburg, South African Chemists, Druggists and Wholesale Distributors, will be in London during July, and can be interviewed at Messrs. Ewing & Co., 73/4 Chiswell Street, London, E.C.1. Mr. Asher will be pleased to meet manufacturers with a view to Buying and Representation for his organisation in the Union of South Africa and Rhodesia. They have distributing Wholesale Depots in Johannesburg, Cape Town, Durban, Port Elizabeth, East London, Bulawayo and Salisbury.

PHARMACEUTICAL Factory in London, in order to work at full capacity, will undertake the Manufacture or accept Sole Representation in England for similar preparations. 244/751, Office of this Paper.

WE are desirous of meeting with Reliable Firms having a good connection among the Wholesale and Export Trade. We do an extensive business in all branches of the Drug Trade, and are willing to act in the capacity of Manufacturers for such Articles. Particulars are given by Viromed S.-A. Bienne, Switzerland.

PATENTS.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

THE PROPRIETORS of Patent No. 312,277—"Improvements relating to the Non-hygroscopic packing of material such as cigarettes or the like"—are desirous of entering into arrangements by way of Licence or otherwise, on reasonable terms, for the purpose of exploiting the same and ensuring its full development and practical working in this country. All communications should be addressed in the first instance to J. E. Evans-Jackson & Co., Registered Patent Agents, 57-60 Holborn Viaduct, London, E.C.1, and at 34 Dame Street, Dublin, Ireland.

APPOINTMENTS.

CITY OF BIRMINGHAM EDUCATION COMMITTEE.
CENTRAL TECHNICAL COLLEGE.

Principal:

D. S. Anderson, Ph.D., B.Sc., M.I.Mech.E., M.I.A.E.

Department of Pharmacy.

APPLICATIONS are invited for the Post of Lecturer in Pharmaceutics in the Department of Pharmacy. The position is a whole-time appointment, commencing September 1 next. Salary in accordance with the Burnham Provincial Technical Scale, less 5 per cent. The salary will be subject to revision on the termination of the present Burnham Award. Applicants should have a University degree or equivalent qualification and have had some teaching experience. Particulars of the appointment will be sent, on receipt of a stamped addressed foolscap envelope, by the Principal, Central Technical College, Suffolk Street, Birmingham, 1, to whom applications on the special form provided must be returned not later than July 14, 1934.

P. D. INNES, Chief Education Officer.

NAMES AND ADDRESSES.

When sending advertisements for any of the sections in this Supplement, advertisers—as a guarantee of good faith and not necessarily for publication—should always give their names and addresses. It sometimes occurs that this rule is not followed and delay and disappointment ensue. Strict attention to this detail will be appreciated.

SITUATIONS OPEN.

RETAIL (HOME).

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

A.A.A.A.A.—LOCUM, Qualified, Lady or Gentleman, required from either July 30 to August 11, inclusive, or August 7 to August 18, inclusive; please state salary required, references, &c.; early replies essential. Welch, Chemist, Badsley Moor Lane, Rotherham, Yorks.

LONDON, E.—Qualified Assistant required, mainly for Dispensing Counter; busy N.H.I.; opportunity to learn rudiments of management. Apply, giving full particulars, to 83/27, Office of this Paper.

LONDON, N. (near City); Qualified Manager; middle- and working-class district; N.H.I. and cash retail; state full particulars of experience and names of references, age and salary required; permanency for right man. Statim, 83/16, Office of this Paper.

LONDON, S.W.—Qualified Manager to take charge of Branch Shop; permanency for the right man; write, stating full particulars and wages required, also the amount could be invested (fully secured and quarter share of profits). 244/757, Office of this Paper.

MANCHESTER.—Qualified Branch Manager, fully experienced in all branches; must be accurate and quick Dispenser and good Window-dresser. State full particulars, salary, &c., to Evans, Chemist, 102 Wilmslow Road, Withington, Manchester.

MANCHESTER DISTRICT.—Young Qualified man required immediately; must be accurate Dispenser and good Window-dresser; state age, height, experience, salary expected and when disengaged; permanency for right man. 82/13, Office of this Paper.

COPPEN BROS. require a Locum (fully Qualified) for their Richmond (Surrey) branch; two weeks, commencing August 27, to September 8, 1934; no Sunday work. Apply personally or by letter, Coppen Bros., 12½ Carey Street, Vincent Square, Westminster, S.W.1.

COUNTY MENTAL HOSPITAL, WHITTINGHAM, Nr. PRESTON, LANCs.—Locum Pharmacist required for the periods July 16 to 21 and August 20 to September 1. Application, stating qualifications, age, to be sent to the Medical Superintendent.

STAFFORDSHIRE.—Qualified Locum required from September 3 to September 23, inclusive; Thursday night duty 6-8, Sunday night duty 6-8; replies must state salary required (to live out) and enclose photograph and references. 243/746, Office of this Paper.

BENTALLS OF KINGSTON have a vacancy for an experienced Saleswoman for their Drug Department; Dispensing experience desirable. Apply personally or by letter, giving particulars of age, experience and salary required, to Staff Manager.

DISPENSER (M.P.S.), Male, wanted shortly. Apply, stating age, height, experience in N.H.I. Dispensing, married or single, salary required, references, when disengaged, with any other particulars in writing, to Secretary, Friendly Societies' Medical Institute, Luton, Beds. Enclose stamped envelope for reply.

IMMEDIATELY.—Qualified Manager; easy berth; country town; state full particulars and photo if possible; locum entertained. Elgers, Ltd., Crowland, Peterborough.

LADY Assistant, Qualified, required for Manchester. Reply, giving full particulars of experience, age, salary required and photo if possible, and when at liberty, to Lyons, Chemist, 316 Platt Lane, Fallowfield, Manchester, 14.

LOCUM, M.P.S., required for two weeks during August or early September. Send full particulars to James H. Wilson, Ltd., The Broadway, Crouch End, N.8.

LOCUM, Qualified, for two weeks, August 12 to 26. Write, stating full particulars, to Hawkeswood, Chemist, Wollaston, Stourbridge.

LOCUM Tenens required for Queen Mary's Hospital, Stratford, E.15, for the period commencing July 5 to July 28, inclusive; applicants (male) must be Qualified Chemists; salary paid £4 4s. a week. Applications, enclosing testimonials and stating previous experience (Hospital or such Institution preferred), to be sent to Major Raphael Jackson, Secretary, Queen Mary's Hospital, Stratford, E.15.

PHARMACY.—Required, Qualified Locum to act as Manager's relief for approximately three months. Apply in writing, stating age, experience and salary required, to the Staff Manager, Royal Arsenal Co-operative Society, Ltd., 148 Powis Street, Woolwich, S.E.18. Endorse envelope "Pharmacy." Note.—Canvassing of members of the General Committee or officials will disqualify.

QUALIFIED Chemist wanted (outdoors) as locum for 3 weeks in August; must be capable of taking sole charge. Call 20 Beulah Hill, Upper Norwood, S.E.19.

QUALIFIED Manager (25 to 35), to open branch shop, Oxford district; start mid-July; living accommodation above if required; good Salesman and Display essential; salary £3 15s. and commission. Apply, with full particulars, R. N. Gardner, 146 Cowley Road, Oxford.

WANTED.—A Qualified Chemist; good Dispenser, Counterman and Window-dresser; willing and not afraid of work. Write stating age, salary, experience, when able to commence, to 79/8, Office of this Paper.

WANTED IMMEDIATELY.—Young Qualified Lady or Gentleman for new shop near Bournemouth as Permanent or Locum Assistant; please state when available and salary required. Amons, Chemists, 98 Sandbanks Road, Parkstone, near Bournemouth.

WANTED.—Qualified Assistant; accustomed to good-class Dispensing and Retail Business. Apply with fullest particulars in first instance as to experience, age, references, salary required, &c., Tilley, Chemist, Droitwich Spa. Applications not answered within 7 days declined with thanks.

WANTED (N.W. LONDON).—Qualified Chemist (male or female); very light duties and short hours; whole or part-time; suitable for retired person; full particulars, wages, etc., 83/6, Office of this Paper.

WHOLESALE.

LONDON.—Vacancy occurs in the Ampoule Department of a Wholesale Pharmaceutical House for a Female Assistant; pharmaceutical qualification essential; give fullest particulars of training and experience, which need not necessarily be in a similar department. 244/753, Office of this Paper.

REPRESENTATIVE required to Sell Bulk and Packed Toilet Preparations to Wholesale Hairdressers and Sundriesmen; must have had experience in this branch of the trade; speciality man not required. Full particulars as to experience, age and salary required, to Hirst, Brooke & Hirst, Ltd., Sheepscar Works, Leeds.

REPRESENTATIVE required, to travel in South Wales and Western England, by old-established London House; applicants must have live connections in this territory with Chemists, Stores and Co-operative Societies and have experience of the Proprietary Medicine and Cosmetic Trades. Write, giving full particulars, to C. W., 244/755, Office of this Paper.

REPRESENTATIVES required, calling on Chemists and Stores, for the following areas: Yorkshire, Lancashire, Northern Counties and Western Counties. This is an agency which will show a good remuneration to the type of man who is prepared to take an interest in our lines. Write full particulars to 244/754, Office of this Paper.

REPRESENTATIVES wanted, with good connection Chemists, Stores, etc., to introduce as additional line a well-displayed high-class Devon Violet Perfume, Beauty Powder, etc.; good commission; attractive terms to retailers. Apply, stating area covered, Lammas, The Violet Farm, Dawlish, Devon.

REQUIRED.—Clerk (age 20 to 25) to assist Buyer in Export Merchant's Office; must have some experience Drugs, Chemicals and Chemists' Sundries. Full particulars and salary required to 83/14, Office of this Paper.

REQUIRED, for new, quick-selling line, Salesmen and Saleswomen, for all districts; must have established connection with Chemists. 244/750, Office of this Paper.

PHOTOGRAPHS, TESTIMONIALS, &c.

When answering advertisements in this section applicants are strongly advised not to send (unless specially requested) ORIGINAL TESTIMONIALS or VALUABLE PHOTOGRAPHS. As can be readily understood, when an advertiser receives from 100 to 150 replies the task of returning photographs, testimonials, &c., is one of some difficulty.

TRAVELLERS who can Sell offered shares free in a sound little business fast becoming a big one, on proof of abilities; commission paid weekly, and specialities are right! 10 years' speciality experience or save stamps. 82/12, Office of this Paper.

WANTED FOR LONDON, AREAS.—Representatives to call on Chemists, Stores, &c.; salary and commission; permanency for those with good connection and own car. Write fullest particulars, with areas covered, "Ozoray House," 43 Vauxhall Bridge Road, London, S.W.1.

YOUNG Chemist wanted (Student might suit); must have sound knowledge of Perfumery-making (essential); spare time to commence, with prospects of permanency if suitable. Letters only, giving full details, salary required, Medina, 39 Montagu Road, Hendon, N.W.4.

SITUATIONS WANTED.

RETAIL (HOME).

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

A **QUALIFIED** Chemist desires position as Manager; keen, energetic worker; thoroughly experienced; Dispensing, Photographic, Toilets, Display; London or near preferred. "Willing," 69 Ormeley Road, S.W.12.

A **SSISTANT;** competent Dispenser, Salesman, Photo; single, active; 25 years' experience; Unqualified. "Aspirin," 61 Fartown Green Road, Fartown, Huddersfield.

A **SSISTANT** (23), tall, Unqualified; high-class experience in all branches; Counter, Dispensing, Photographic, Windows; Prescribing; highest references; trustworthy, capable of being left in charge; desires post where ability appreciated; London district; free July 2. G. A. Coward, 7 Dartmouth Park Road, N.W.5. (Gulliver 3887.)

A **SSISTANT** (37), Unqualified, experienced, West End and suburbs, requires change; capable Dispenser, excellent Salesman, artistic Displays; reliable; abstainer. "P.C.B. 124/34, Office of this Paper.

A **SSISTANT** (22), Unqualified (Male), passed Part I, who has had 5 years' experience in Provincial, London Suburbs and Seaside Pharmacies, seeks situation in City or Western London. 83/30, Office of this Paper.

E **XPERIENCED,** Active, trustworthy Assistant, Unqualified (28; 6 ft.); Public School; tactful, courteous Counterman; clean, tidy Dispenser; town or country; immediately. Flatman, 47 Gloucester Terrace, W.2. (Padd. 2389.)

L **OCUM,** Herbalist or Drug Stores (40); free; two weeks from August 5; active, up-to-date ideas; sound knowledge all branches; used to charge; town, country or seaside; terms moderate. White, 9 Penford Street, Myatt's Park, S.E.5.

L **OCUM,** Qualified, experienced; highest references; free until July 7, August 11 to 18, September 1 to 15. Jenkins, Greenmount, Teignmouth.

L **OCUM** (24), Qualified; free July 8 to July 29, inclusive; London, suburbs and Surrey only. "Zingiberis," 102 Streathbourne Road, Upper Tooting, S.W.17.

L **OCUM** (38), Qualified; reliable and experienced; free July 8. R. T. Ridsdale, 115 Langney Road, Eastbourne.

L **OCUM.**—Retired Scottish Chemist, having business to transact in London, July-August, would undertake, for fortnight or longer, supervision, light duties or act as Superintendent in return for board-residence or moderate salary. 83/12, Office of this Paper.

L **OCUM.**—W. J. Talintyre, M.P.S., has open dates, July 9 to 21 and from September 17 onward. Ashton-on-Ribble.

M.P.S. (35), married, desires permanency in London; thoroughly experienced Manager or Assistant; keen; reliable; excellent references; free fortnight. 83/18, Office of this Paper.

Q **UALIFIED** Lady Dispenser (Hall) requires position in Hospital or Institution; St. John's Ambulance Nursing Certificates. 13 years' experience. 79/5, Office of this Paper.

Q **UALIFIED;** open for immediate temporary engagement; experienced Manufacturing and Retail. "Statim," 69 Church Lane, London, S.E.7.

CLEAR OUT—your Old or Damaged Stock of Photo Goods. Why keep them any longer? Turn them into CASH. I GIVE BEST PRICES for Old Films (damaged, fogged or expired dates); Packet Papers. Cards (any sizes). Old Photo Goods or Cameras. Bromide Papers. Plates (all sizes, all makes). Send any goods in the photo line. I buy all, good or bad. Cash per return. A good price for all Cameras. Send them along. **S. E. HACKETT, 23 July Road, Liverpool**

OPTICAL QUALIFICATION
The next Examination for the **FELLOWSHIP DIPLOMA** of the **NATIONAL ASSOCIATION OF OPTICIANS** will be held in **LONDON** on Wednesday and Thursday, **August 1st and 2nd, 1934**. Last date of entry, Thursday, July 5th. Syllabus and full particulars from The Secretary, N.A.O., 130 Princes Road, Liverpool, 8

SCOT (24), Qualified, tall, seeks permanency; experienced Dispensing and Counter; capable of taking charge; free September; good references. 85/5, Office of this Paper.

UNQUALIFIED Assistant desires change, permanency, London; 6 years' all-round experience, Dispensing, Counter, Stock-keeping, Window-dressing, Photography, &c.; good Salesman; first-class references. 83/29, Office of this Paper.

WHOLESALE.

ADDITIONAL LINES INVITED.—Representative; long experience on wide area. P.C.B. 124/37, Office of this Paper.

ADDITIONAL Line required; good-class proposition; Midland Counties, etc.; own car; A1 references; strictly confidential. Matthews, 182 Mansfield Road, Nottingham.

AN Accomplished Medical Interviewer and skilled Propagandist, with wide experience and a unique knowledge of Medical Men, their requirements and susceptibilities, desires re-engagement. "Zealous," 21 Gloucester Place, Brighton.

FIRST-CLASS Representative, at present representing a leading Toilet Soap and Perfumery House of this country, desires change; strong personal connection Chemists, Stores, Hair-dressers; four Northern Counties, Yorkshire to Scarborough; commissions also considered. 82/2, Office of this Paper.

YOUNG Man (25), 8 years' experience analysis of Mineral, Fatty and Essential Oils, sound knowledge Soap and Perfumery, seeks position in laboratory; or would welcome opportunity to represent well-established firm (London preferred). "W.", 48 Dagmar Avenue, Wembley Hill, Middlesex.

COLONIAL, INDIAN AND FOREIGN.

CHEMIST, 15 years' Dispensing and High-class Retail experience, 5 years Manager for London firm, desires post abroad; Africa, India or China preferred; age 30; excellent health. "Branksome," 76/18, Office of this Paper.

FOR SALE.

(Articles to the value of £5-£50.)

CASH REGISTER.—Very little used; "National" make; adds all takings, prints every sale; bargain. Write R. Dudley, 4 Berne Road, Thornton Heath.

Price lists, trade circulars, samples, and printed matter can in no case be forwarded, the Box numbers being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

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MISCELLANEOUS.

CHEMISTS' FITTINGS.—We hold an immense stock of Drug Fittings, Dispensing Screens, Glass-fronted Counters, Perfumery Cases, Nests of Drawers, Wall Cases, Silent Salesmen, Upright and Flat Counter Cases, Plate Glass Counters, Cash Tills, Display Stands and Glass Shelves, &c., at competitive prices. **F. MAUND & E. BERG (SHOWCASES), LTD.**, Shop Fitters and Shop Front Builders, 175/9 Old Street, London, E.C.1.

FOR Chemist's Shop Fittings send to **GEORGE COOK**, The Working Shopfitter. Drug Fittings, Wall Cases, Serving Counters, Dispensing Screens, All-glass Counters, Counter Drawers. Rough sketches free. Lowest prices. Send your requirements to 27 Macclesfield Street, E.C.1. 'Phone: Clerkenwell 5371.

LIMITED COMPANIES REGISTERED.—I have now been engaged in this work over 20 years, so you may rely that my experience in Chemist and other Companies (I take all trades) is hard to beat. Most reasonable and inclusive Fee. Advice free. **A. B. SLACK**, 721 Princess Road, West Didsbury, Manchester.

SHOPFITTINGS.—Second-hand, reconditioned and repolished. All sizes and shapes. Half to-day's prices. Sketches and full particulars on receipt of detailed requirements. Call or write, **PHILIP JOSEPHS & SONS, LTD.**, 90/92 St. John Street, Clerkenwell, E.C.1. Telephone: Clerkenwell 2191. "Pharmacy Fitters for over a Century."

EXCHANGE COLUMN.

WANTED.

WANTED.—Large Mortar, 120 oz.; state lowest price. 81/5, Office of this Paper.

THE SUPPLY OF SUPPLEMENTS

On receipt of addressed Post Office Wrappers (not more than six at a time) stamped 1d. the Chemist and Druggist Supplement will be forwarded without cost.

LOOSE STAMPS WILL NOT BE ACCEPTED

If wrappers bear a halfpenny stamp only, postal delivery may be delayed.

THE CHEMIST'S COMPACT LIBRARY

Every book by an Expert

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The tenth edition of this, the most complete pharmaceutical formulary in the English language, is devoted to the official and semi-official preparations of practically every country in the world. This volume (published 1929) contains 1146 pages.

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(P.F. Vol. II)

Published 1934. Supplementary to Vol. I, and known as "The Chemists' Recipe Book." Contains formulas for adhesives, beverages, cleaning materials, culinary and household requisites, horticultural and agricultural preparations, inks, lozenges, perfumes, photographic preparations, polishes, soaps, toilet articles, varnishes, veterinary preparations, etc., including numerous descriptions of practical methods employed in their manufacture, and other information of use to pharmacists and manufacturers. Over 1000 pages.

Price 15s. net, by post 15s. 9d.

Pharmaceutical Botany

An attractively written book, dealing with the plants mentioned in the examination syllabus of the various pharmaceutical examining bodies. A useful gift for apprentices and assistants who have not passed the qualifying examinations.

Price 5s. net, by post 5s. 4d.

The Art of Dispensing

The tenth edition of this well-known work is now ready. The book has been thoroughly revised and considerably improved, while maintaining the features which have made it so popular with several generations of students. It is kept by chemists in the dispensary for ready reference in cases of difficulties arising in the course of the day's work.

Price 8s. net, by post 8s. 6d.

Veterinary Counter Practice

Chemists interested in veterinary practice will find the work indispensable, as it deals with the ailments of horses, cattle, sheep, pigs, dogs, and poultry, and the remedies that can be supplied. New edition 1930 (Eighth) brings this book thoroughly up to date.

Price 7s. 6d. net, by post 8s.

The Photographic Chemist

This is a concise guide to chemists commencing and carrying on a photographic department.

Price 3s. 6d. net, by post 3s. 8d.

Diseases and Remedies

Now in its sixth edition (March, 1931). It has been carefully revised by an experienced medical practitioner and parts of the book have been rewritten.

Price 5s. net, by post 5s. 3d.

Wootton's Chronicles of Pharmacy

In two vols., maroon cloth, comprising 770 pages

Price 10s. 6d. net, by post 11s. 3d.

Practical Methods of Urine Analysis

The object of this book is to give chemists exactly the information they want on the subject. The book was written by a pharmacist who was an expert in this work, and has been revised by a medical practitioner and lecturer of long experience in clinical analysis. (Fourth Edition). Contains 97 pages.

Price 4s. net, by post 4s. 3d.

The Chemists' Dictionary of Medical Terms

A small book which explains the meaning of medical terms as to which customers often inquire from chemists. In addition to concise definitions of these technical terms, notes are given on the treatment of the more important ailments.

Price 3s. 6d. net, by post 3s. 8d.

The C. & D. Price List Formulary, 'P.L.F.'

All users of the C. & D. Retail Dispensing Price List require a copy of this Formulary. It brings together the formulas for unofficial preparations, the prices of which are quoted in the Price List. It is a choice collection of good formulas for articles in everyday request by the public.

Price 2s. 6d. post free

Provincial Hospital Pharmacopœias

Uniform with the "Chemists' Dictionary," contains 296 pages and consists of formulas for medical prescriptions used in twenty-two hospitals and infirmaries in Great Britain outside the London district.

Price 3s. net, by post 3s. 2d.

FOREIGN CORRESPONDENTS ARE REQUESTED TO NOTE THAT THE POSTAGE IS 2d. EXTRA FOR EACH BOOK.

May be obtained at the published prices from the Wholesale Drug or Sundries House or from:—

**THE CHEMIST AND DRUGGIST, 28 ESSEX STREET, STRAND,
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Branch Offices: Paris: Melbourne and Sydney, Australia; Auckland, New Zealand;

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Glasgow: 19 Waterloo Street.

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